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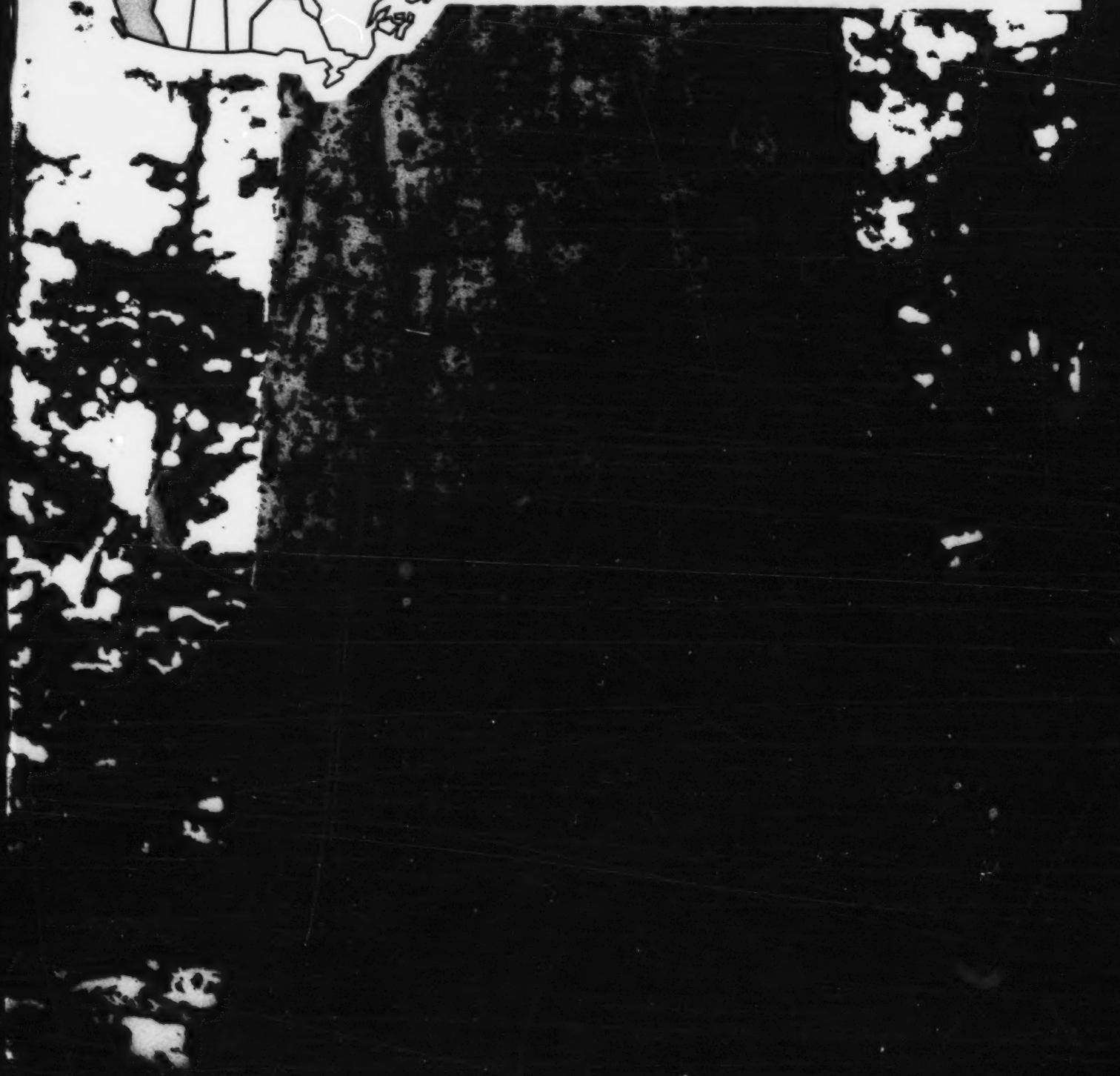
Canadian
Forestry
Service

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canadien des
forêts

Distribution maps of common tree diseases in British Columbia

C. Wood

Information Report BC-X-281
Pacific Forestry Centre



86-04991/

**Distribution maps of common tree diseases
in British Columbia**

C. Wood

Canadian Forestry Service
Pacific Forestry Centre

BC-X-281

1986

Canadian Forestry Service
Pacific Forestry Centre
506 West Burnside Road
Victoria, B.C.
V8Z 1M5

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Abstract

The distributions of common tree diseases in British Columbia are summarized. These are based on collections held in the herbarium (DAVFP) at the Pacific Forestry Centre of the Canadian Forestry Service, Victoria, B.C. Based on Forest Insect and Disease Survey data, the report is intended to provide background information for forest managers, forest agency personnel and educational institutions.

This publication supersedes BC-X-71 (1972).

Résumé

Le document donne un résumé de la répartition des maladies des arbres en Colombie-Britannique. Ce travail a pu être compilé grâce aux collections de l'herbarium (DAVFP) situé au Centre de foresterie du Pacifique, organe du Service canadien des forêts, à Victoria. Fondé sur les données du Relevé des insectes et des maladies des arbres, le rapport a pour objectif de fournir des informations de base à l'intention des aménagistes forestiers, du personnel des organismes forestiers et des maisons d'enseignement.

Cette publication remplace le rapport BC-X-71 (1972).

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Introduction

This report summarizes the distribution of common tree diseases in British Columbia based on collections held in the herbarium at the Pacific Forestry Centre of the Canadian Forestry Service, Victoria, B.C. The report is one in a series based on Forest Insect and Disease Survey data intended to provide background information for forest managers, forest agency personnel and educational institutions.

Disease collections from primary hosts are indicated on the maps by a dot; collections from alternate hosts by a triangle. Host trees and plants affected by the diseases are listed.

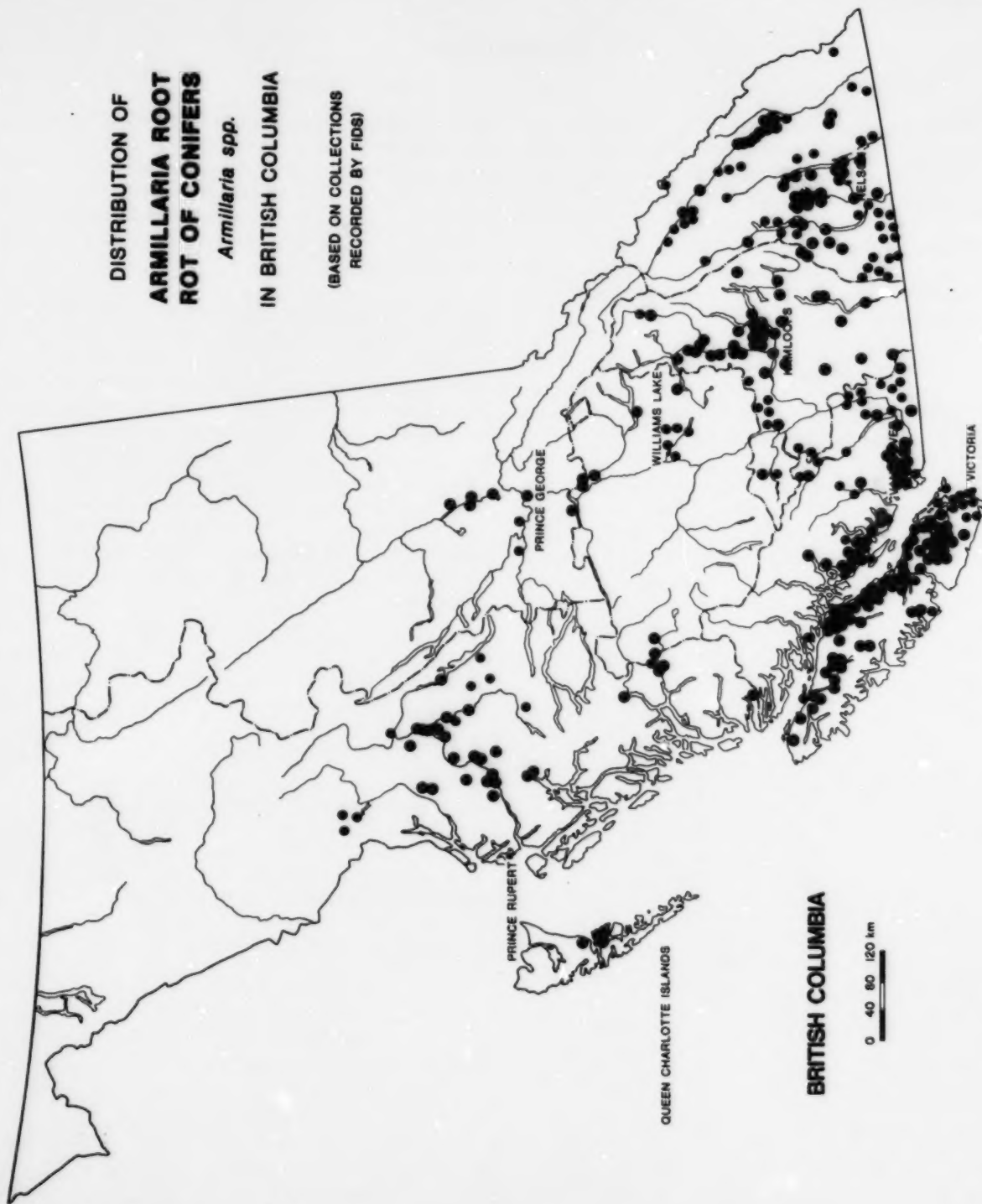
The herbarium, an internationally recognized repository (DAVFP) of specimens, contains the largest collection of fungi in British Columbia. More than 25 000 disease and 5 000 plant specimens are curated and the computer data bank contains more than 40 000 records. About 3 700 species of fungi from 1 250 host species or sub-

strates represent 18 major disease families including wood decay fungi, rusts, cankers and die-backs, needle rusts and blights and dwarf mistle-toes. Most collection records date from 1940, some since 1921 when investigations in forest pathology in British Columbia were initiated, and some from 1887.

Foresters, mycologists, educators and researchers are welcome to visit the herbarium collection. Specialists at PFC will provide confirmation or identification of material collected by cooperators and suitable specimens will be curated in the permanent collection. Reporting and collecting of forest fungi, particularly those which would extend the known range, is encouraged. Information accompanying collections should include: date; location; host tree affected; tree condition; name, address and telephone number of collector or contact and additional observations and comments.

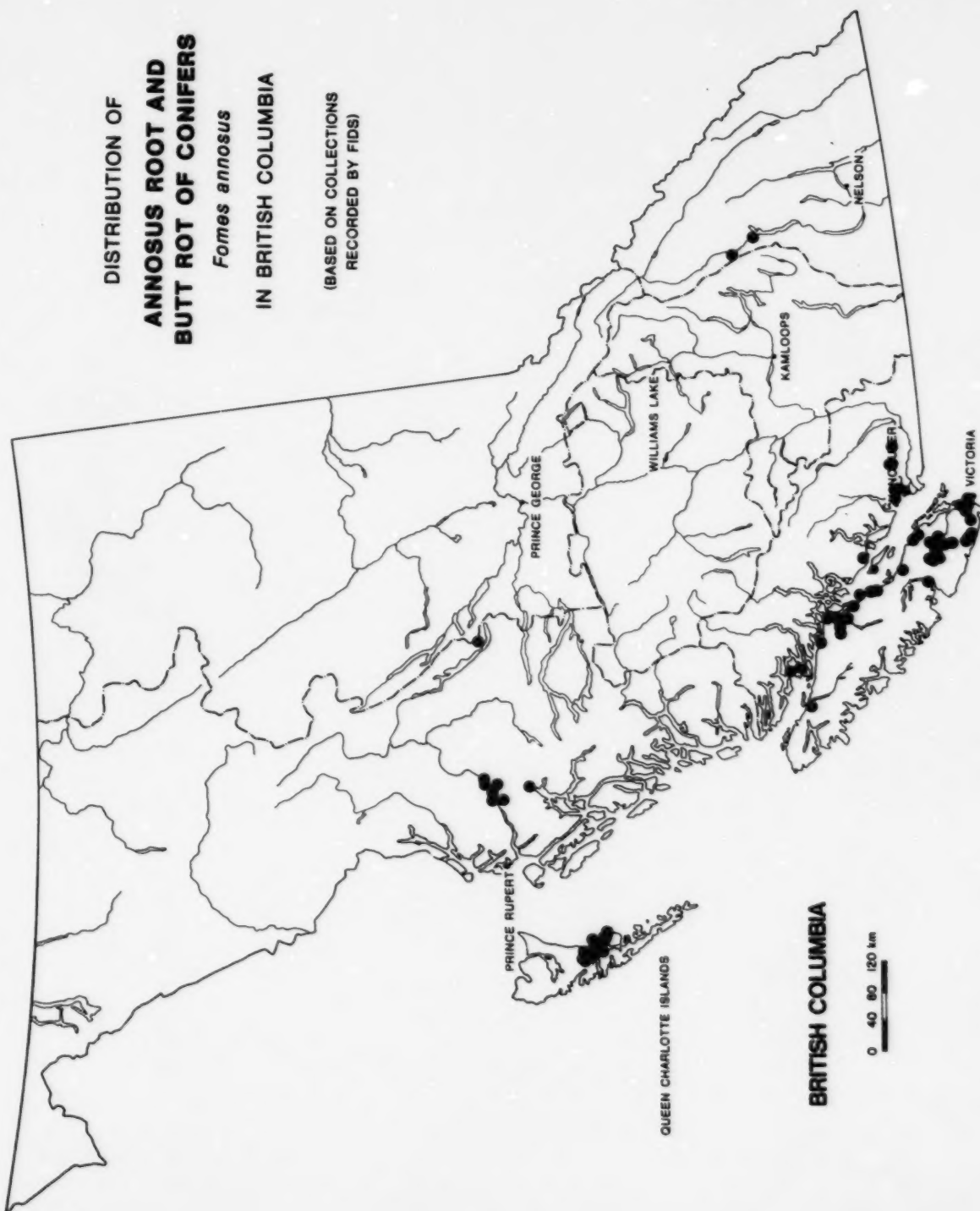
DISTRIBUTION OF
**ARMILLARIA ROOT
 ROT OF CONIFERS**
Armillaria spp.
 IN BRITISH COLUMBIA

(BASED ON COLLECTIONS
 RECORDED BY FIDS)



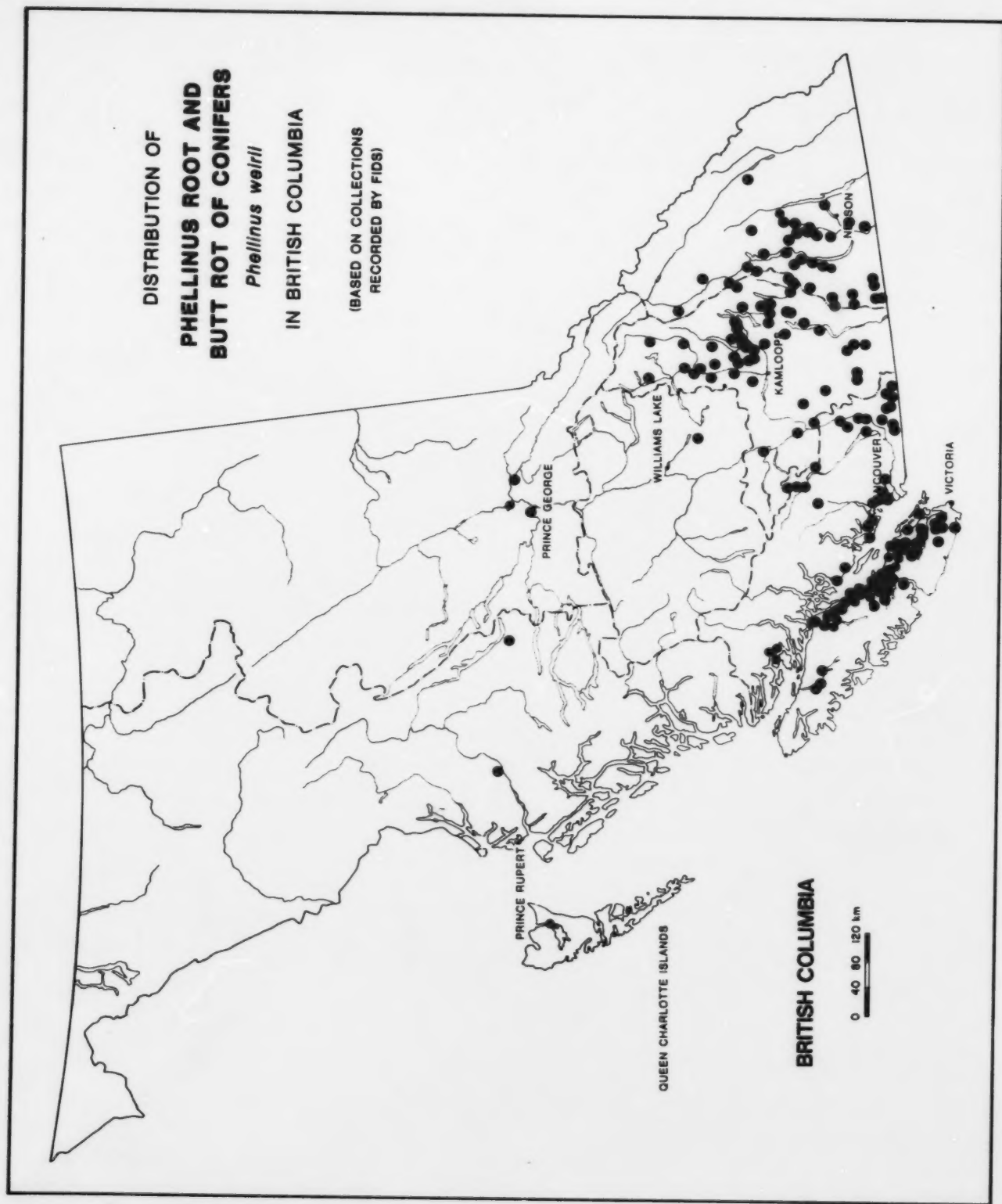
DISTRIBUTION OF
**ANNOSUS ROOT AND
BUTT ROT OF CONIFERS**
Fomes annosus
IN BRITISH COLUMBIA

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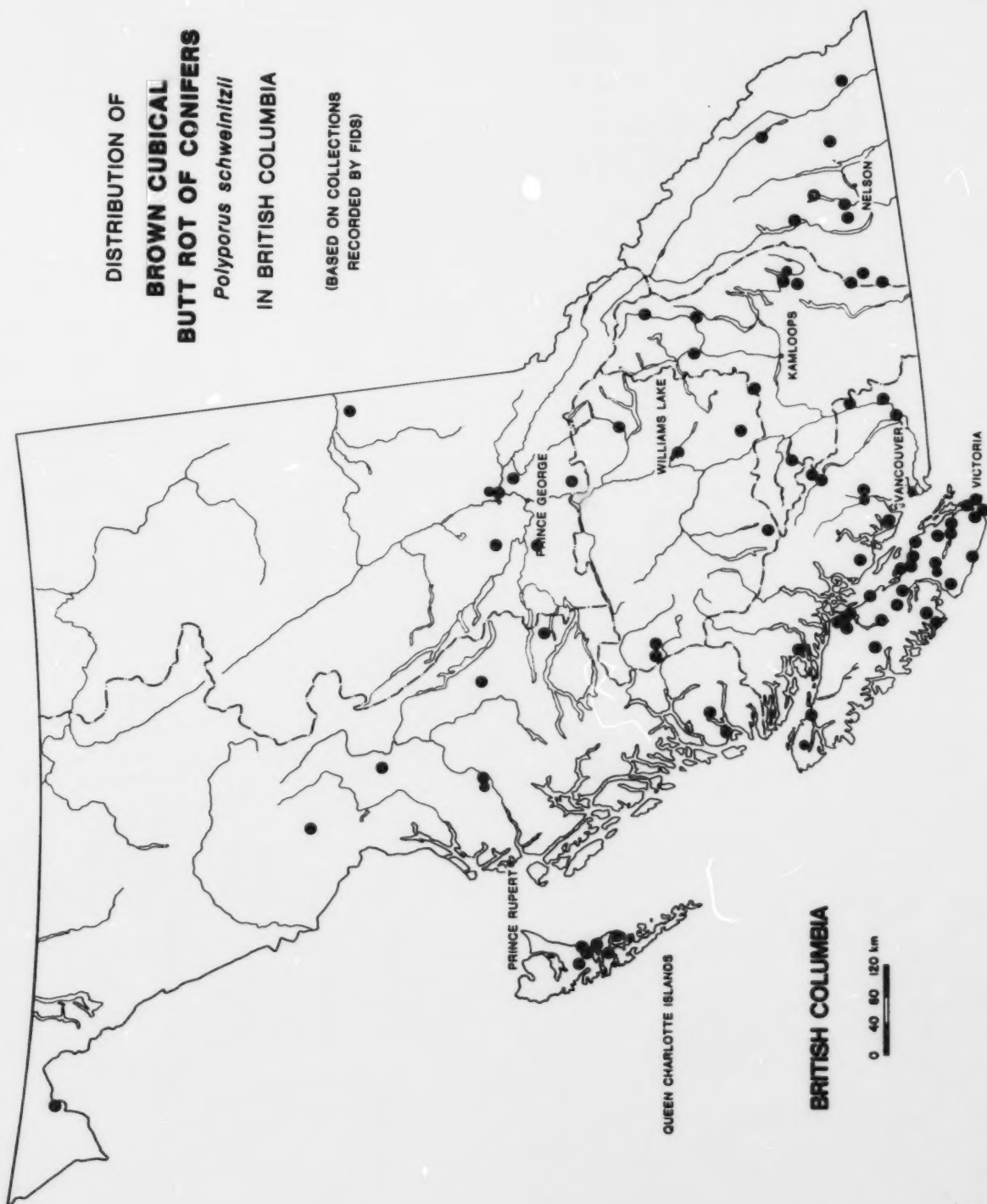
DISTRIBUTION OF
**PHELLINUS ROOT AND
 BUTT ROT OF CONIFERS**
Phellinus weirii
 IN BRITISH COLUMBIA

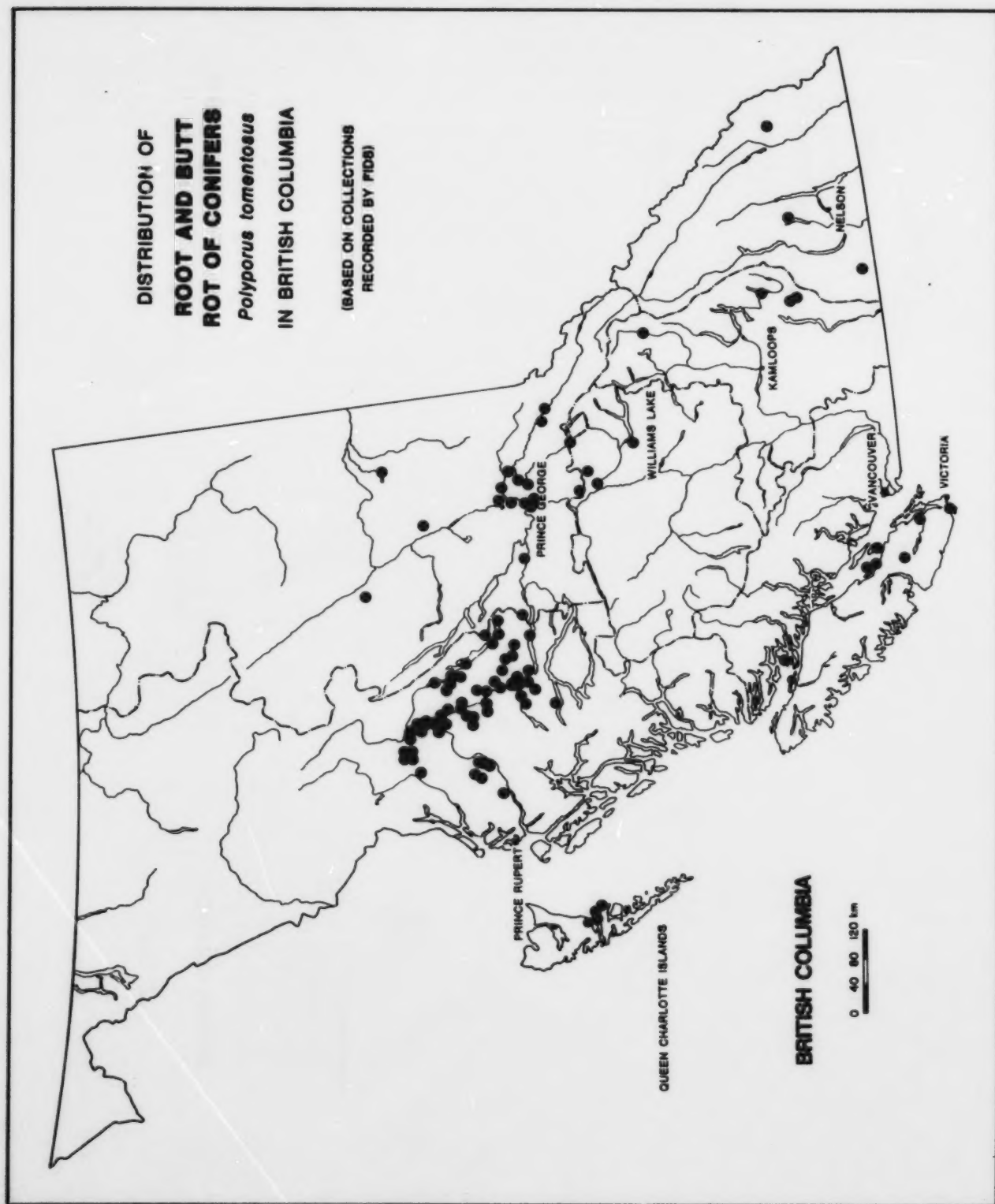
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DISTRIBUTION OF
**BROWN CUBICAL
 BUTT ROT OF CONIFERS**
Polyporus schweinitzii
 IN BRITISH COLUMBIA

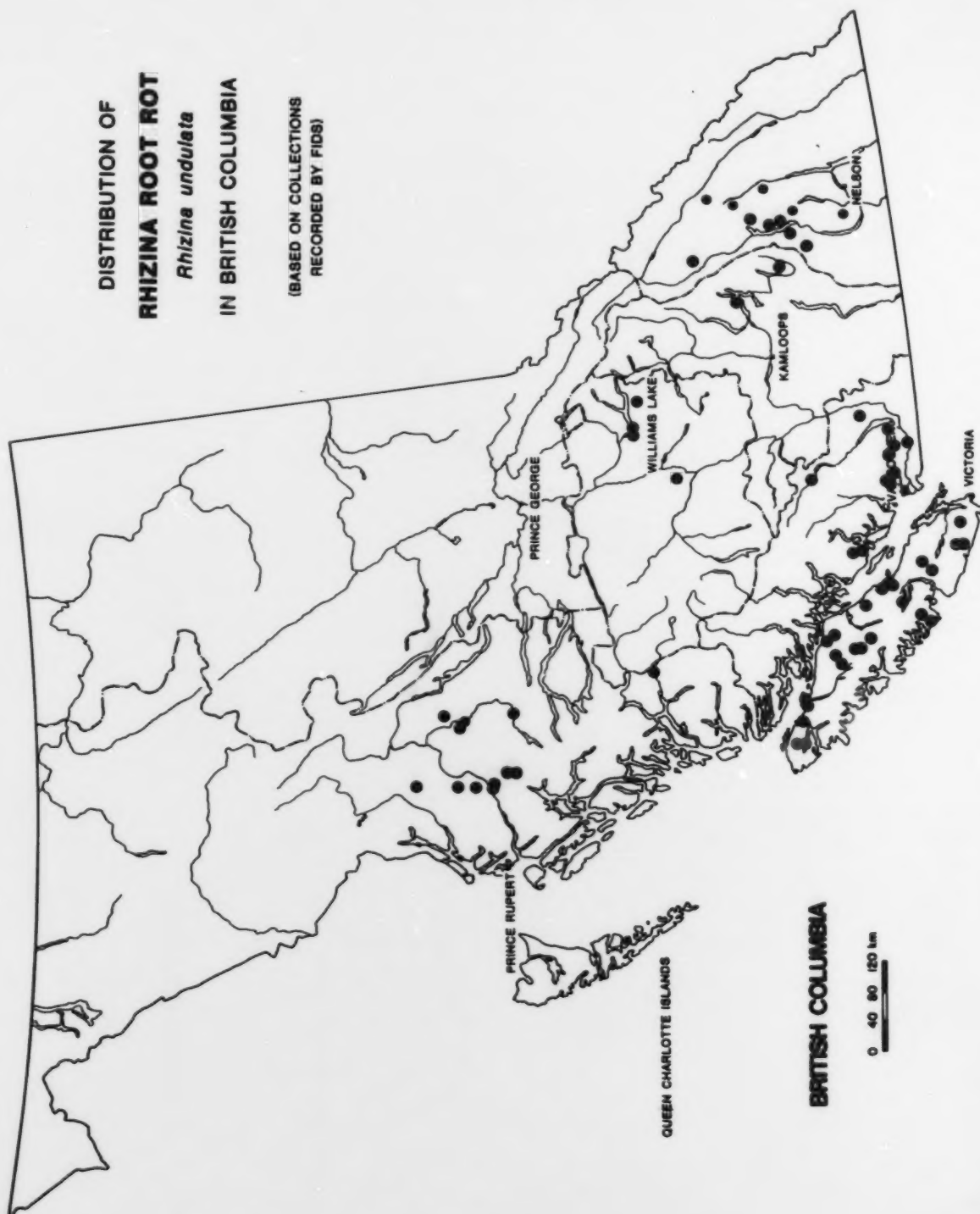
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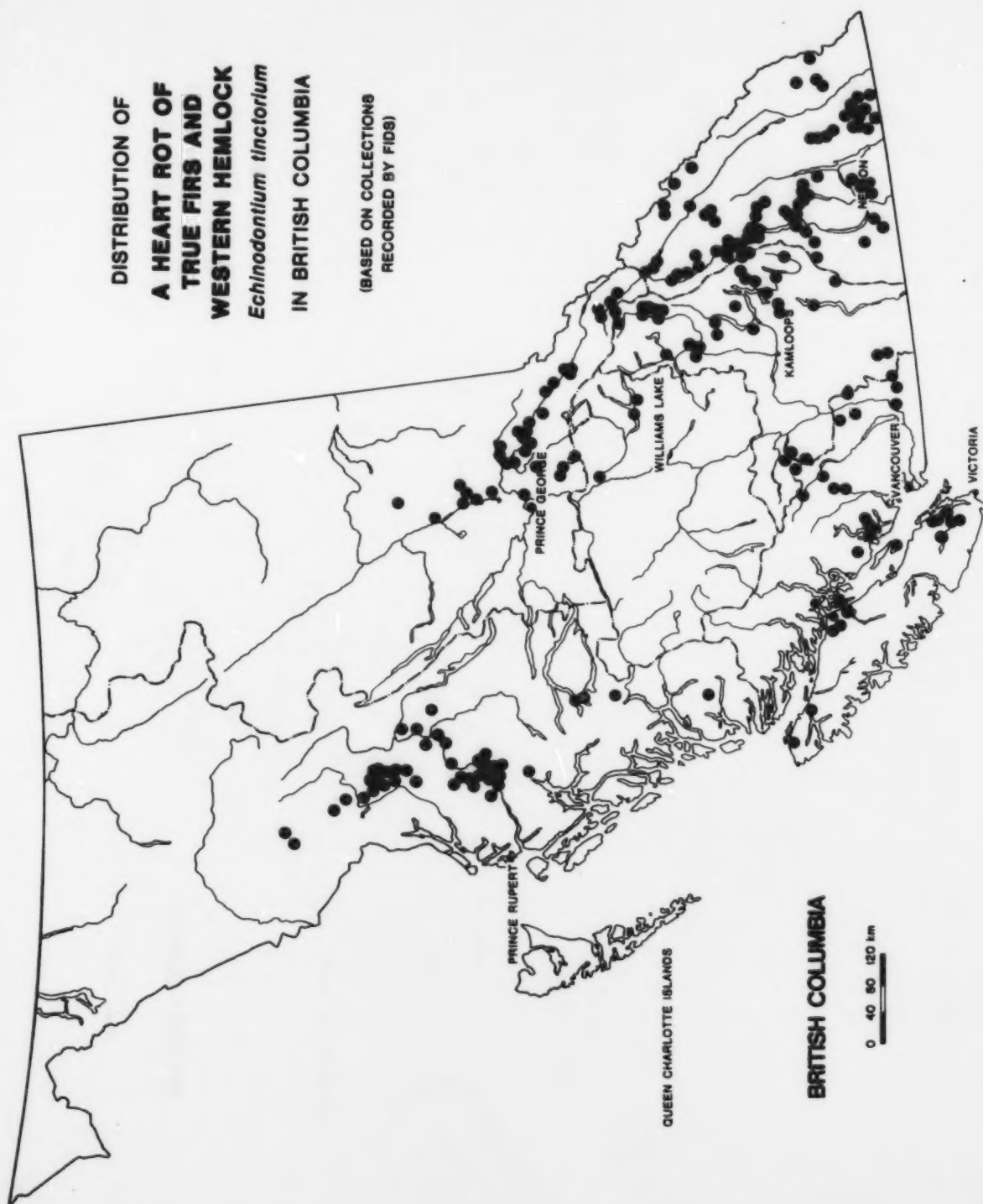
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RHIZINA ROOT ROT
Rhizina undulata
IN BRITISH COLUMBIA

(BASED ON COLLECTIONS
RECORDED BY FIDS)

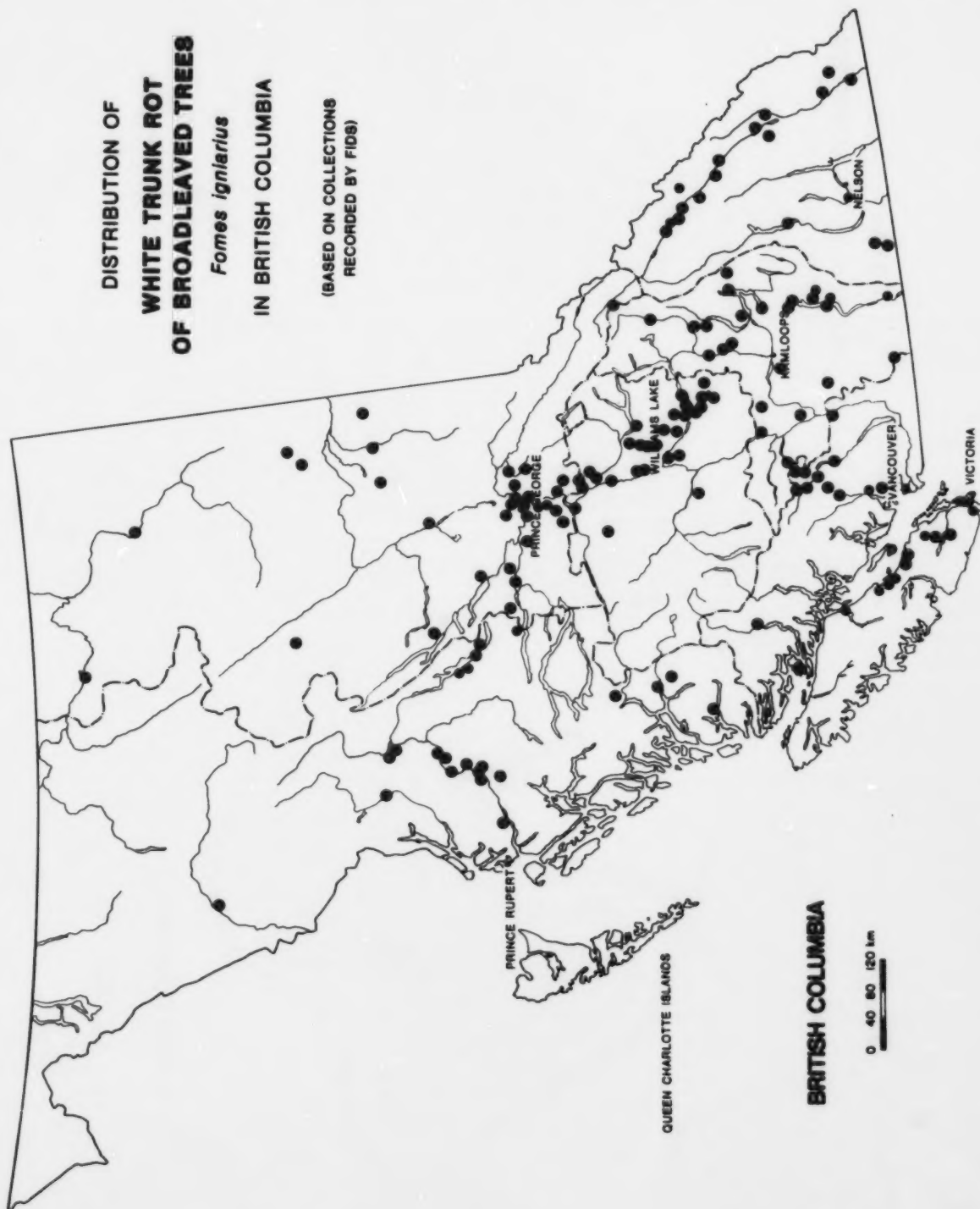


DISTRIBUTION OF
A HEART ROT OF
TRUE FIRS AND
WESTERN HEMLOCK
Echinodontium tinctorium
IN BRITISH COLUMBIA

(BASED ON COLLECTIONS
RECORDED BY FIDS)

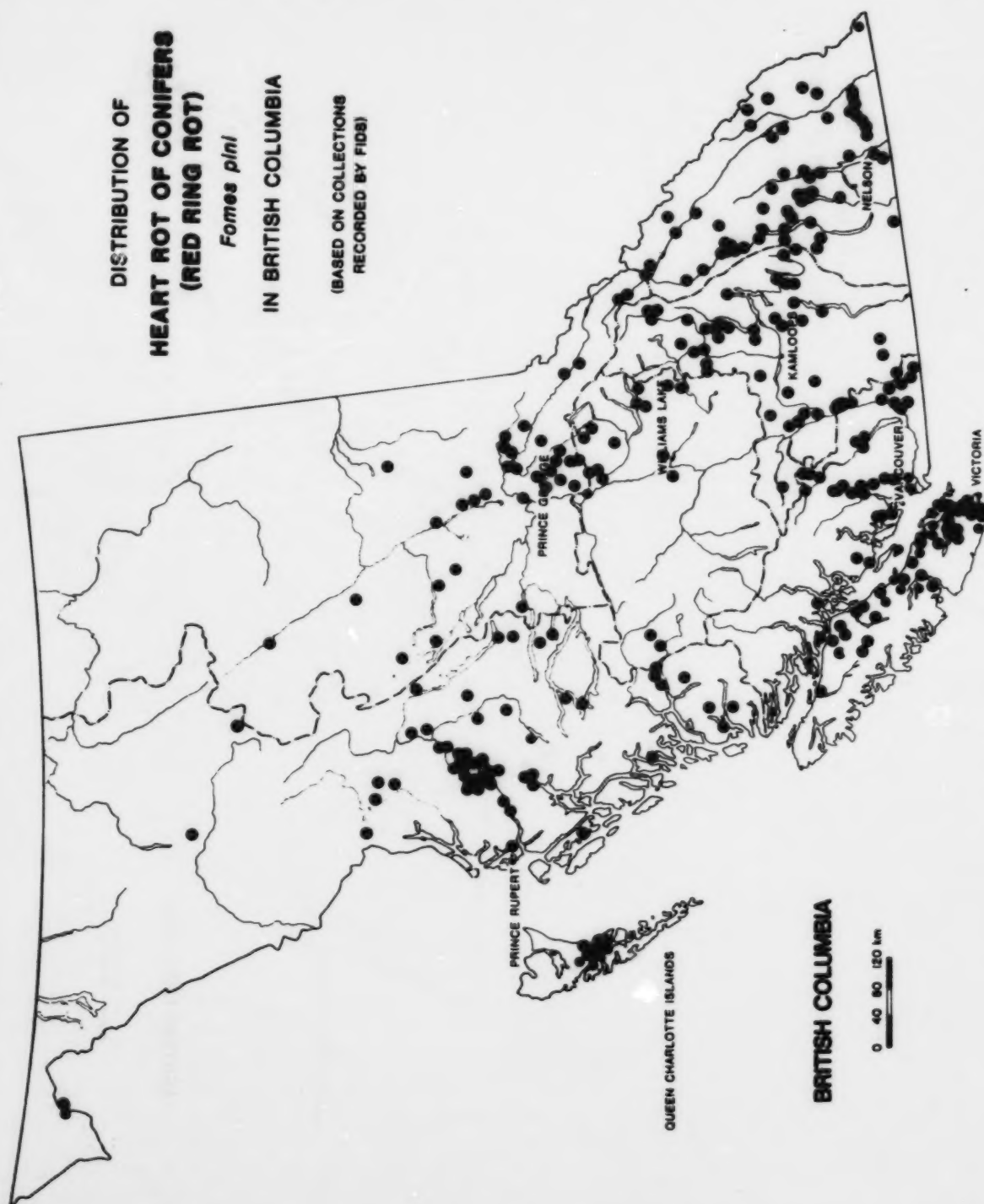


DISTRIBUTION OF
WHITE TRUNK ROT
OF BROADLEAVED TREES
Fomes ignarius
IN BRITISH COLUMBIA
(BASED ON COLLECTIONS
RECORDED BY FIDS)

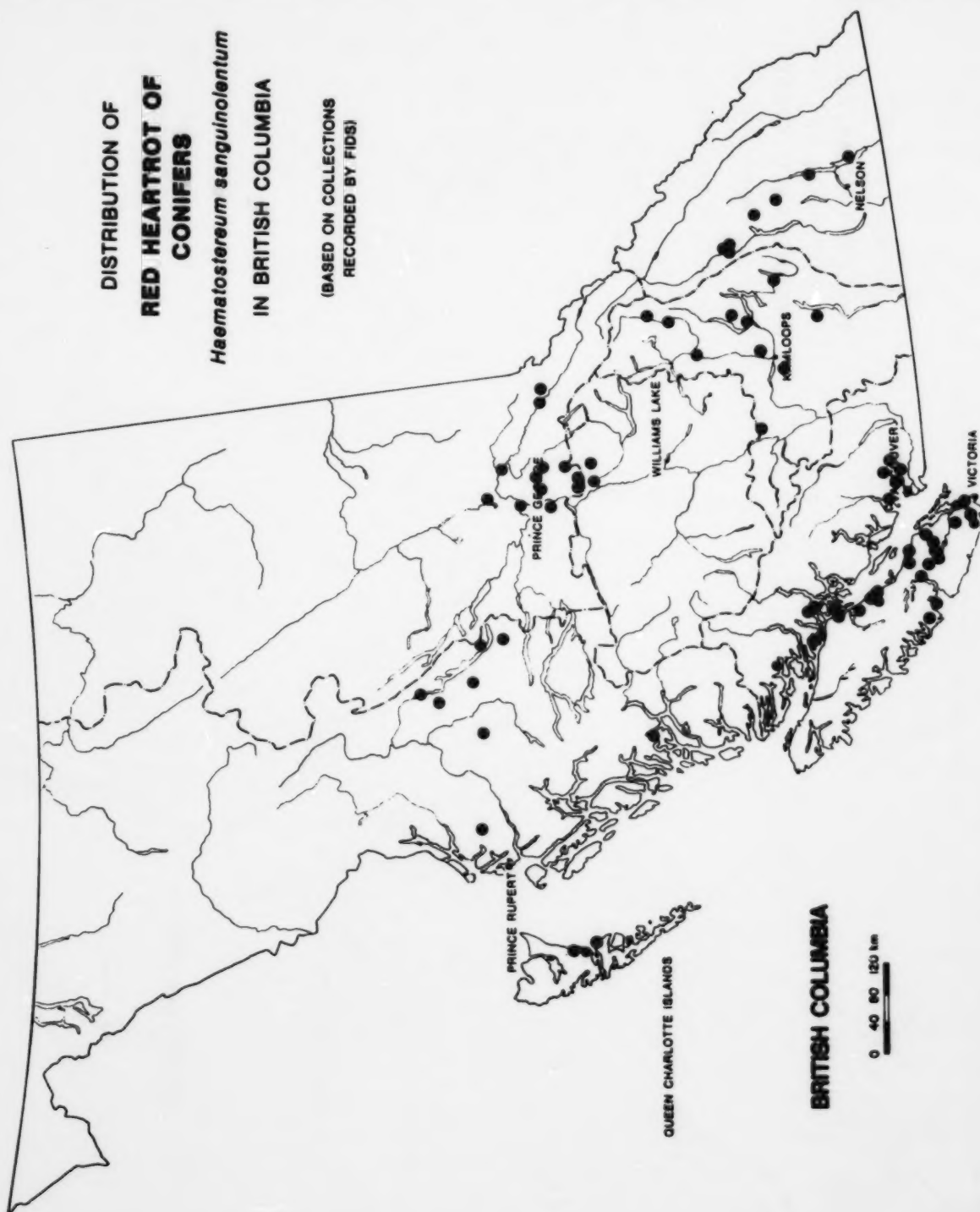


DISTRIBUTION OF
**HEART ROT OF CONIFERS
(RED RING ROT)**
Fomes plni
IN BRITISH COLUMBIA

(BASED ON COLLECTIONS
RECORDED BY FIDS)

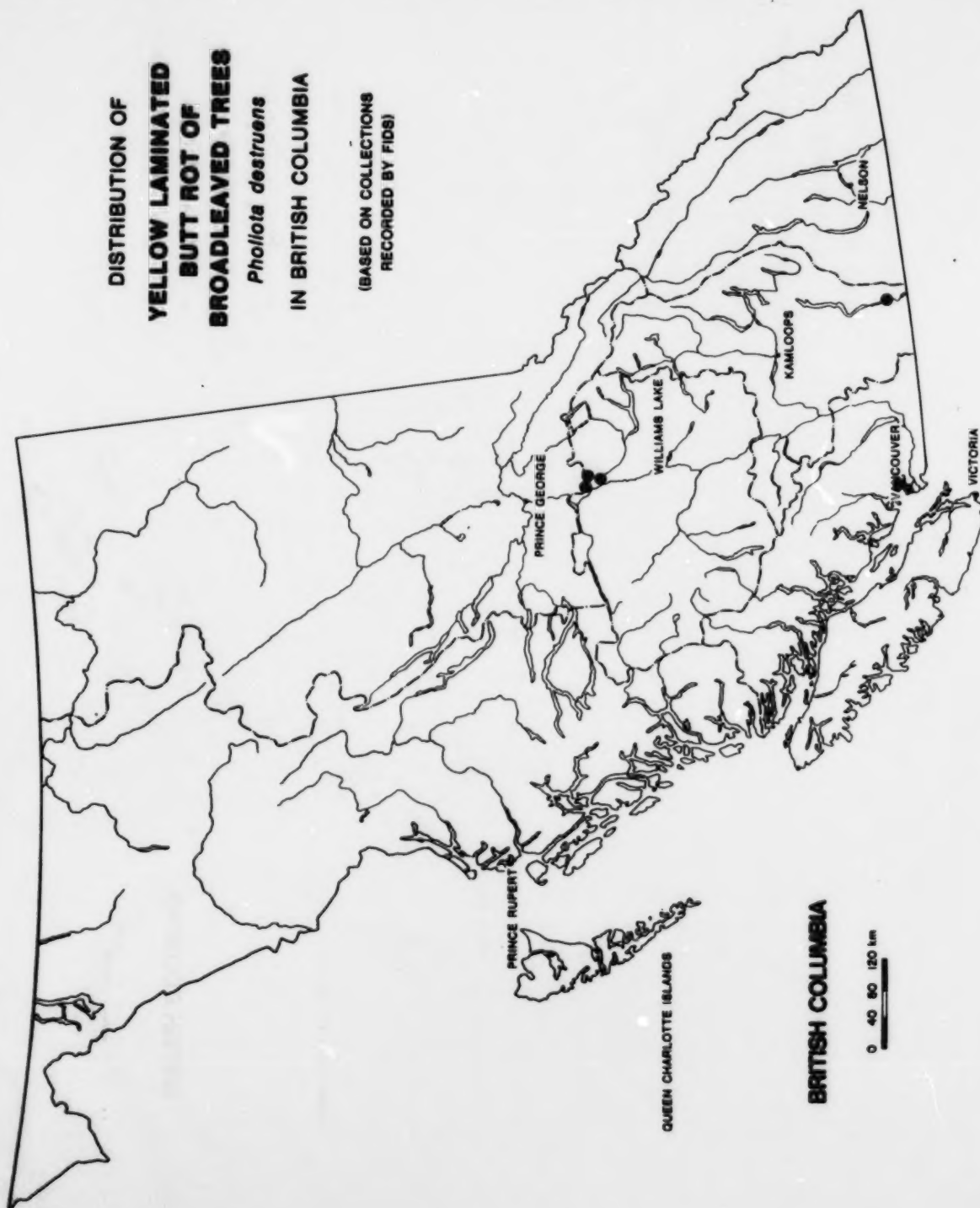


DISTRIBUTION OF
**RED HEARTROT OF
CONIFERS**
Haematostereum sanguinolentum
IN BRITISH COLUMBIA
(BASED ON COLLECTIONS
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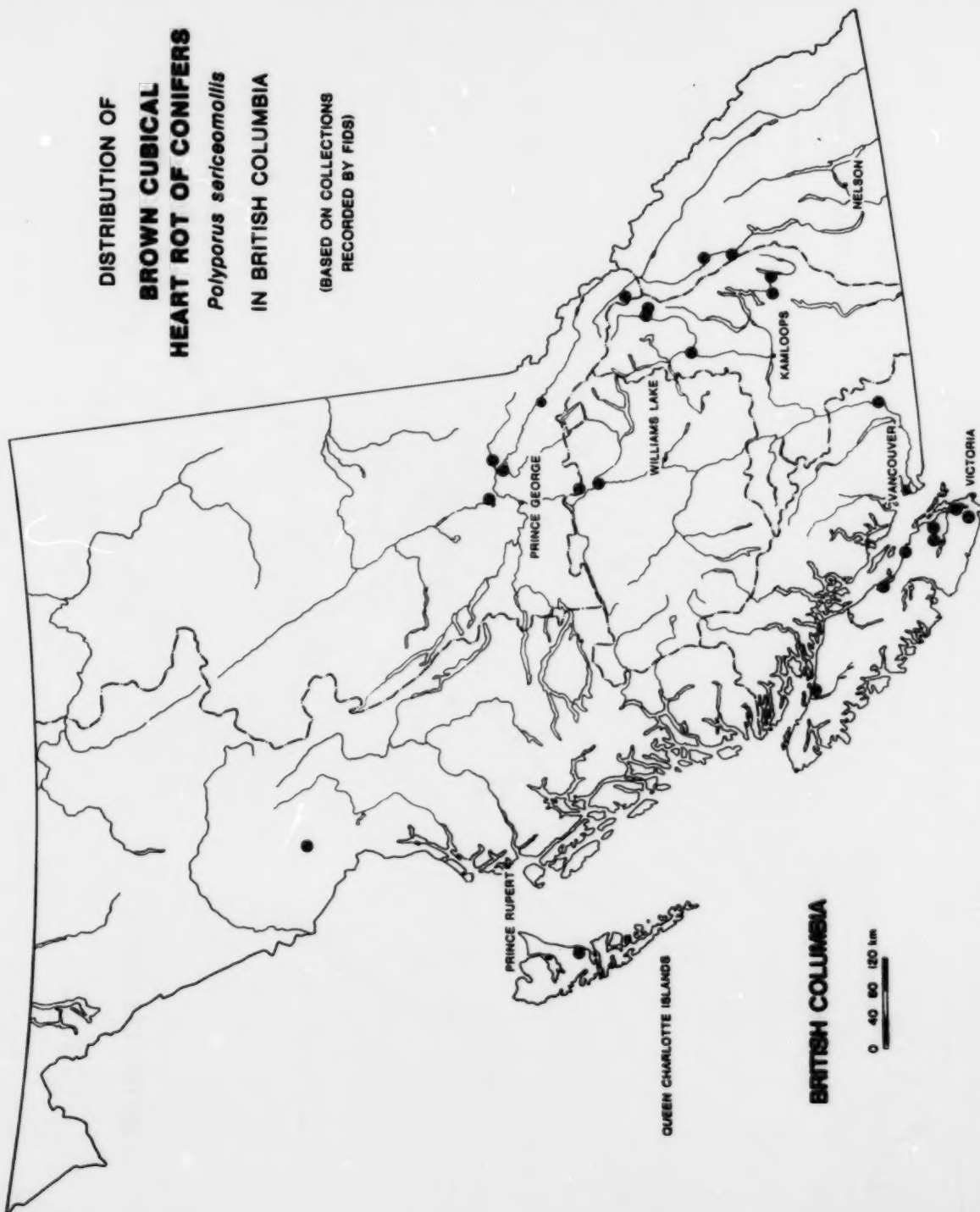
**DISTRIBUTION OF
YELLOW LAMINATED
BUTT ROT OF
BROADLEAVED TREES**
Pholiota destruens
IN BRITISH COLUMBIA

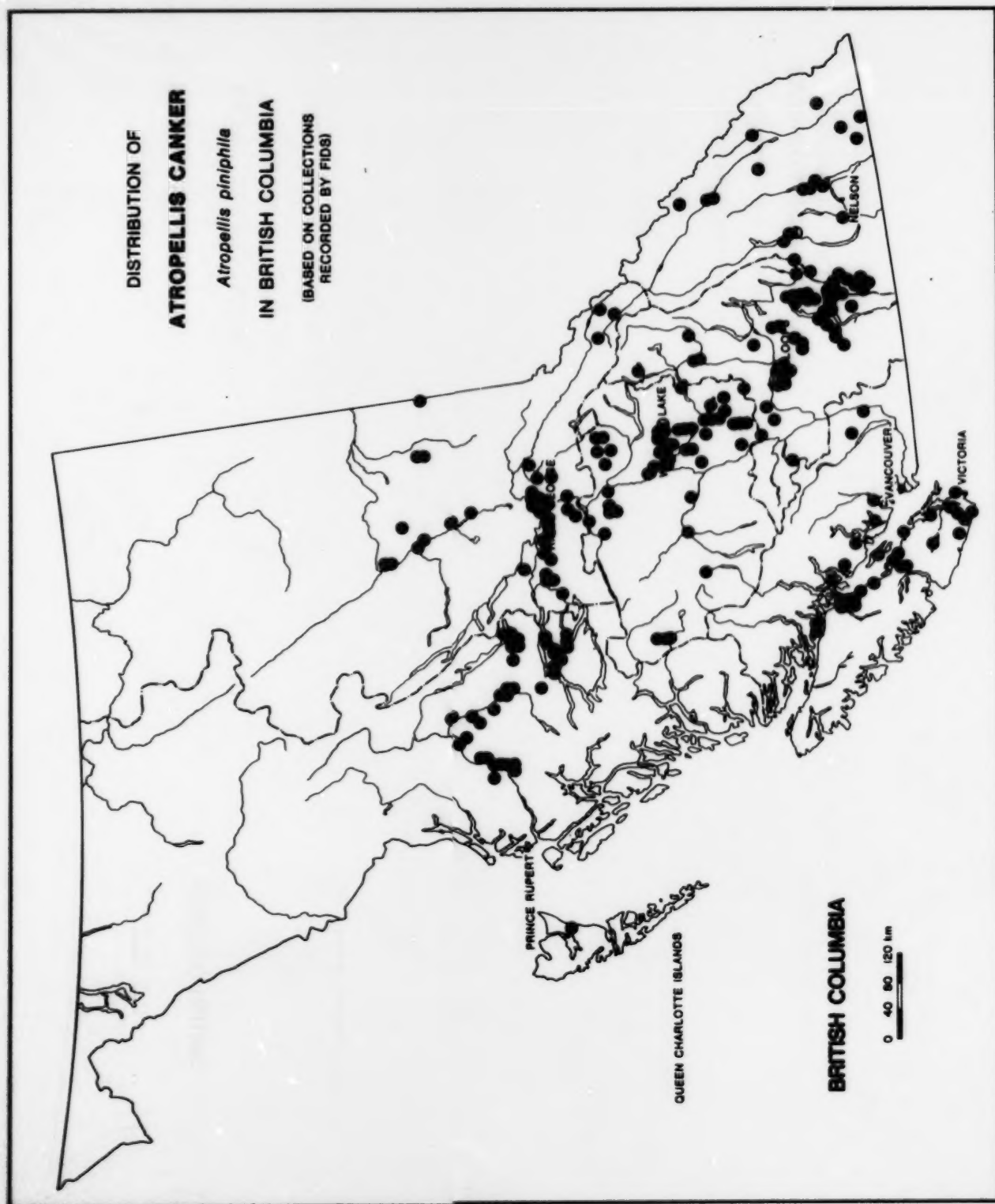
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DISTRIBUTION OF
**BROWN CUBICAL
HEART ROT OF CONIFERS**
Polyporus sericeomollis
IN BRITISH COLUMBIA

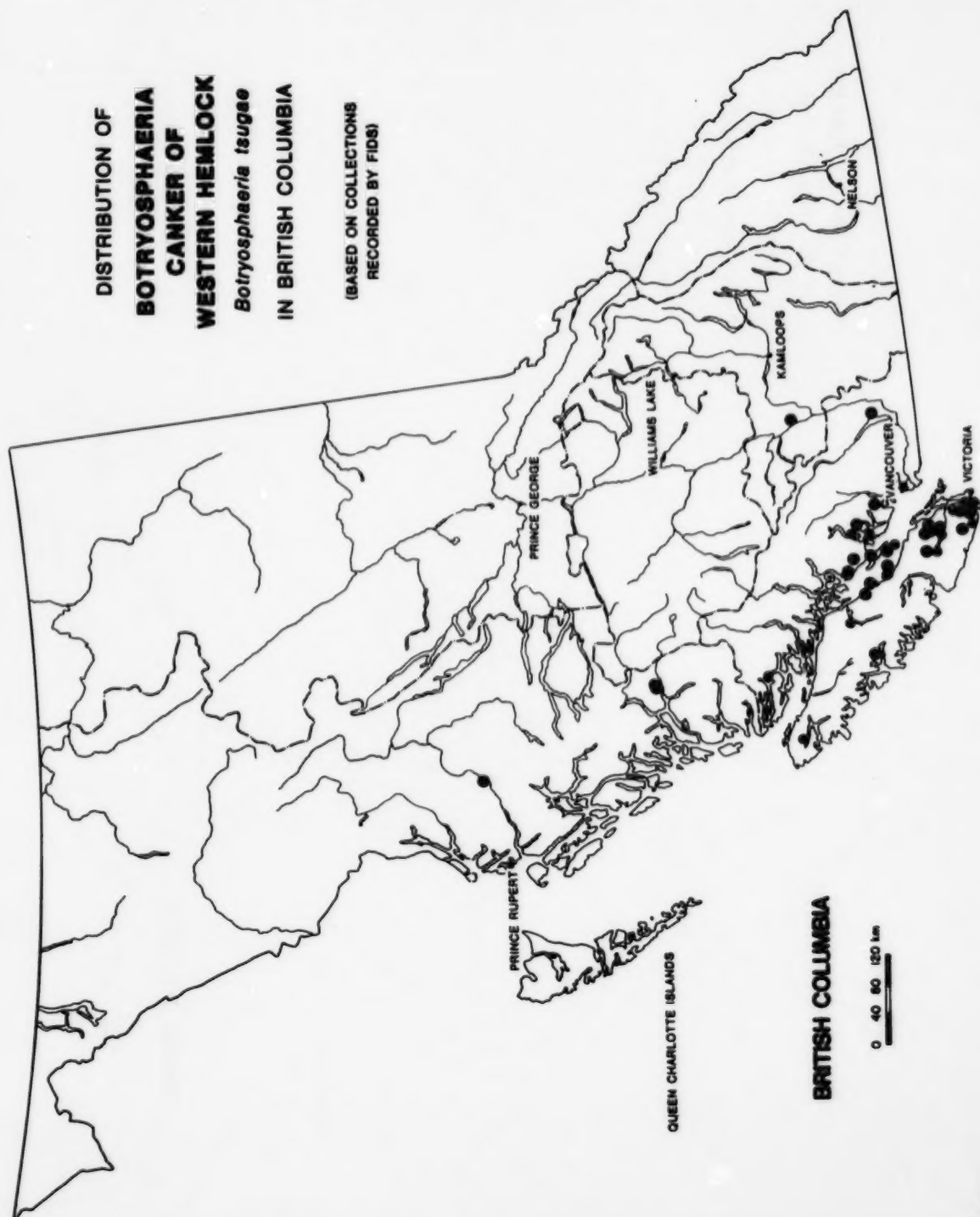
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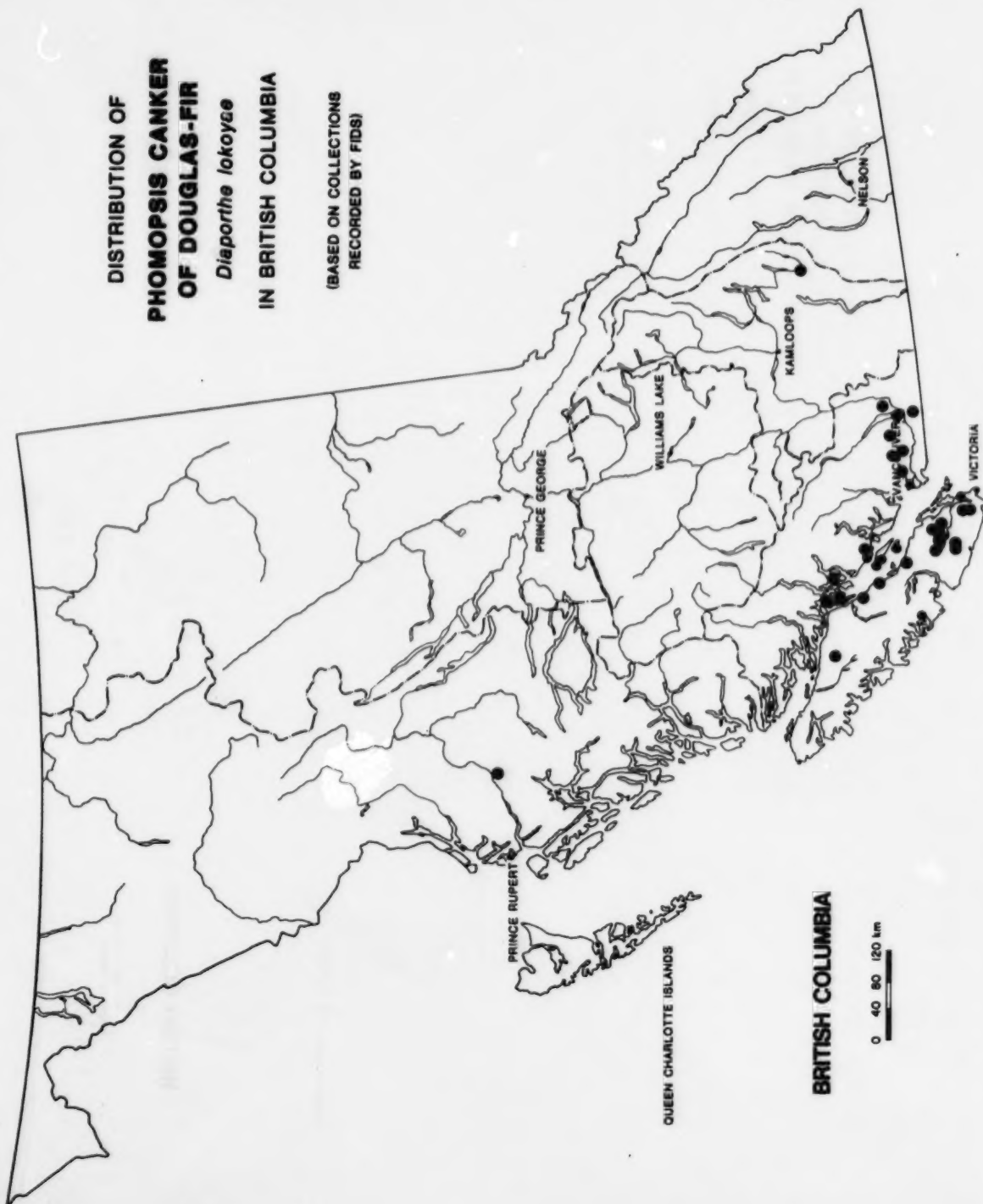
DISTRIBUTION OF
BOTRYOSPHERA
CANKER OF
WESTERN HEMLOCK
Botryosphaeria tsugae
IN BRITISH COLUMBIA

(BASED ON COLLECTIONS
RECORDED BY FIDS)



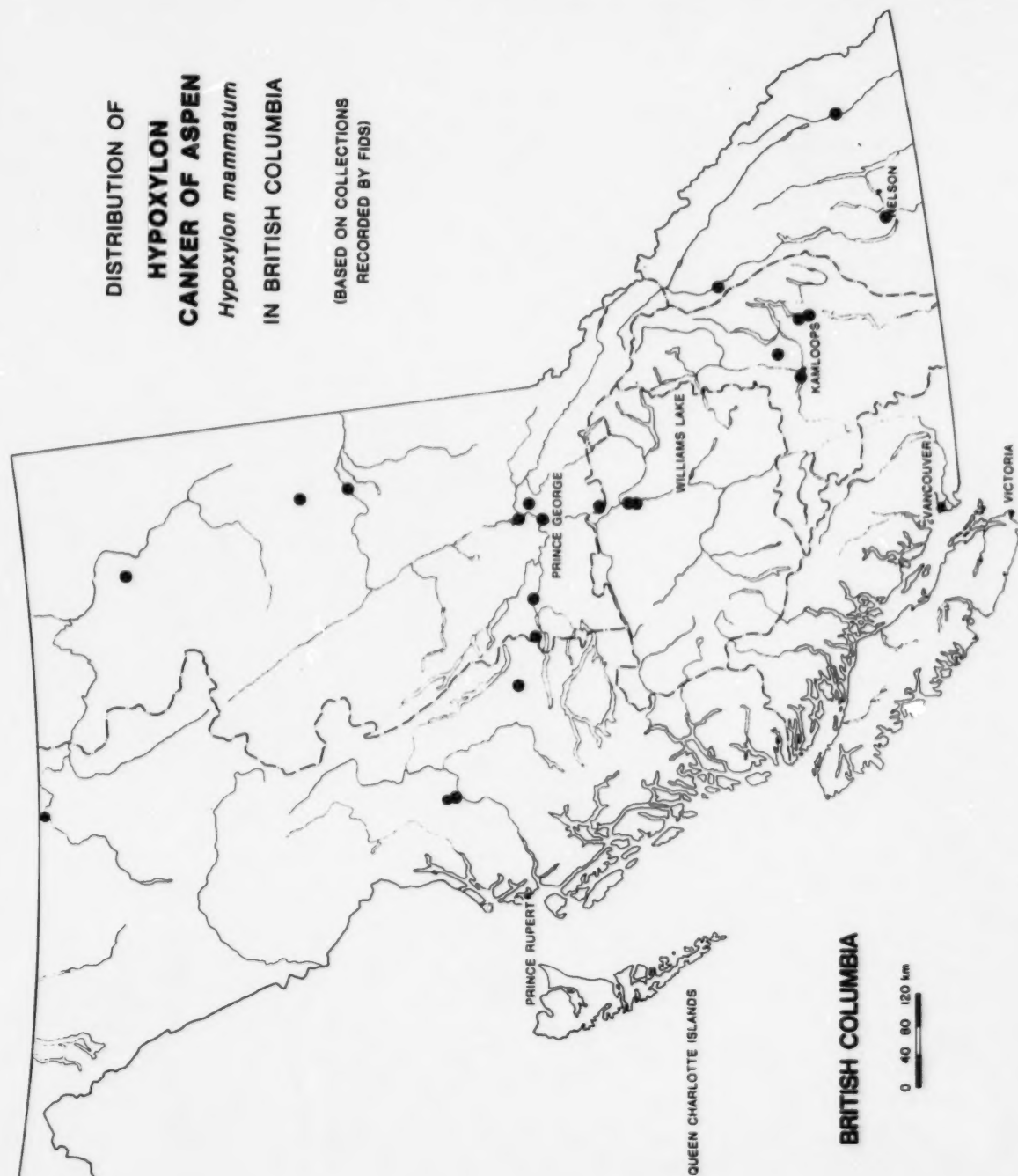
**DISTRIBUTION OF
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OF DOUGLAS-FIR**
Diaporthe lokoyae
IN BRITISH COLUMBIA

(BASED ON COLLECTIONS
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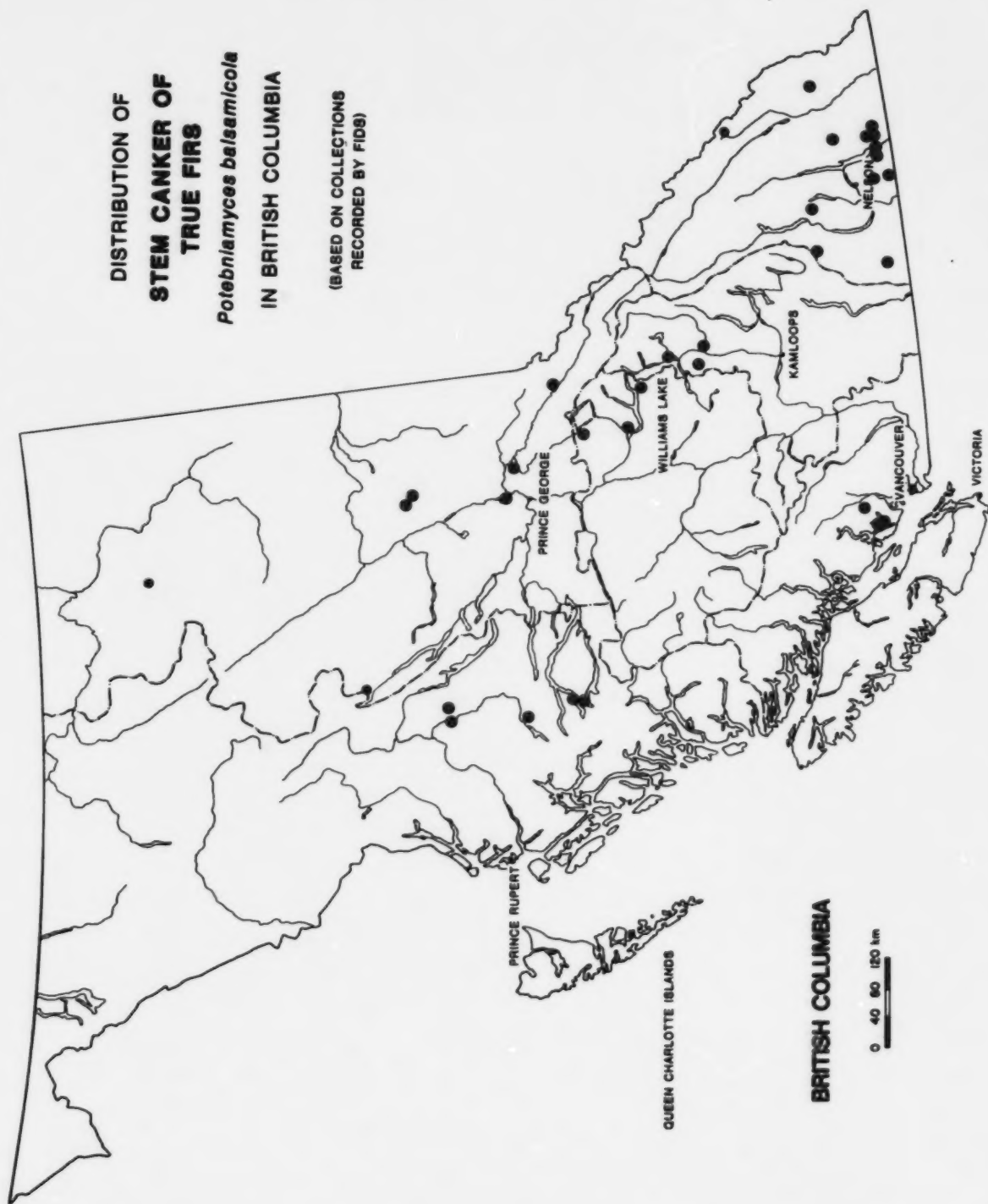
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CANKER OF ASPEN
Hypoxylon mammatum
IN BRITISH COLUMBIA

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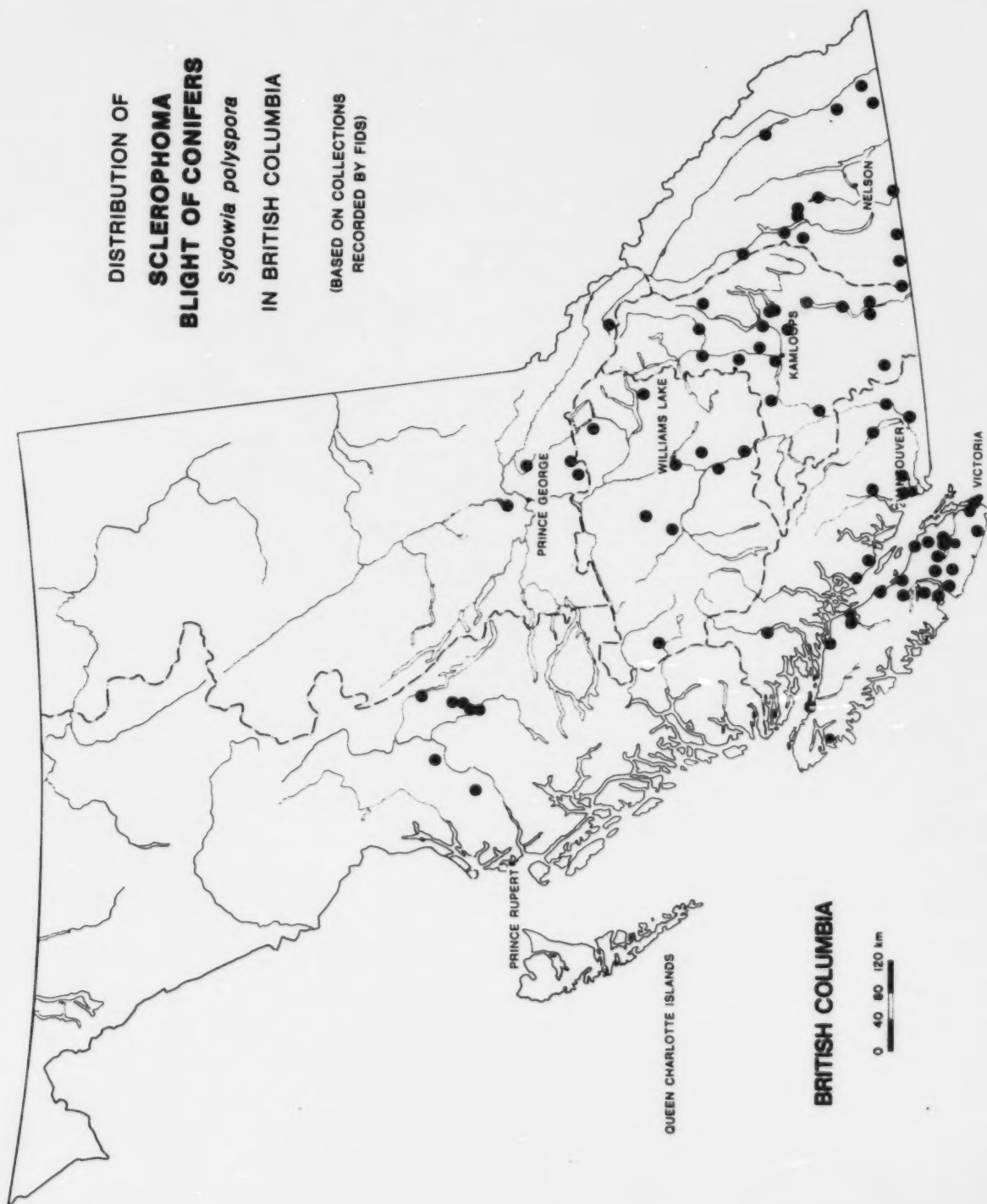


**DISTRIBUTION OF
STEM CANKER OF
TRUE FIRS**
Potebniamyces balsamicola
IN BRITISH COLUMBIA

(BASED ON COLLECTIONS
RECORDED BY FIDS)

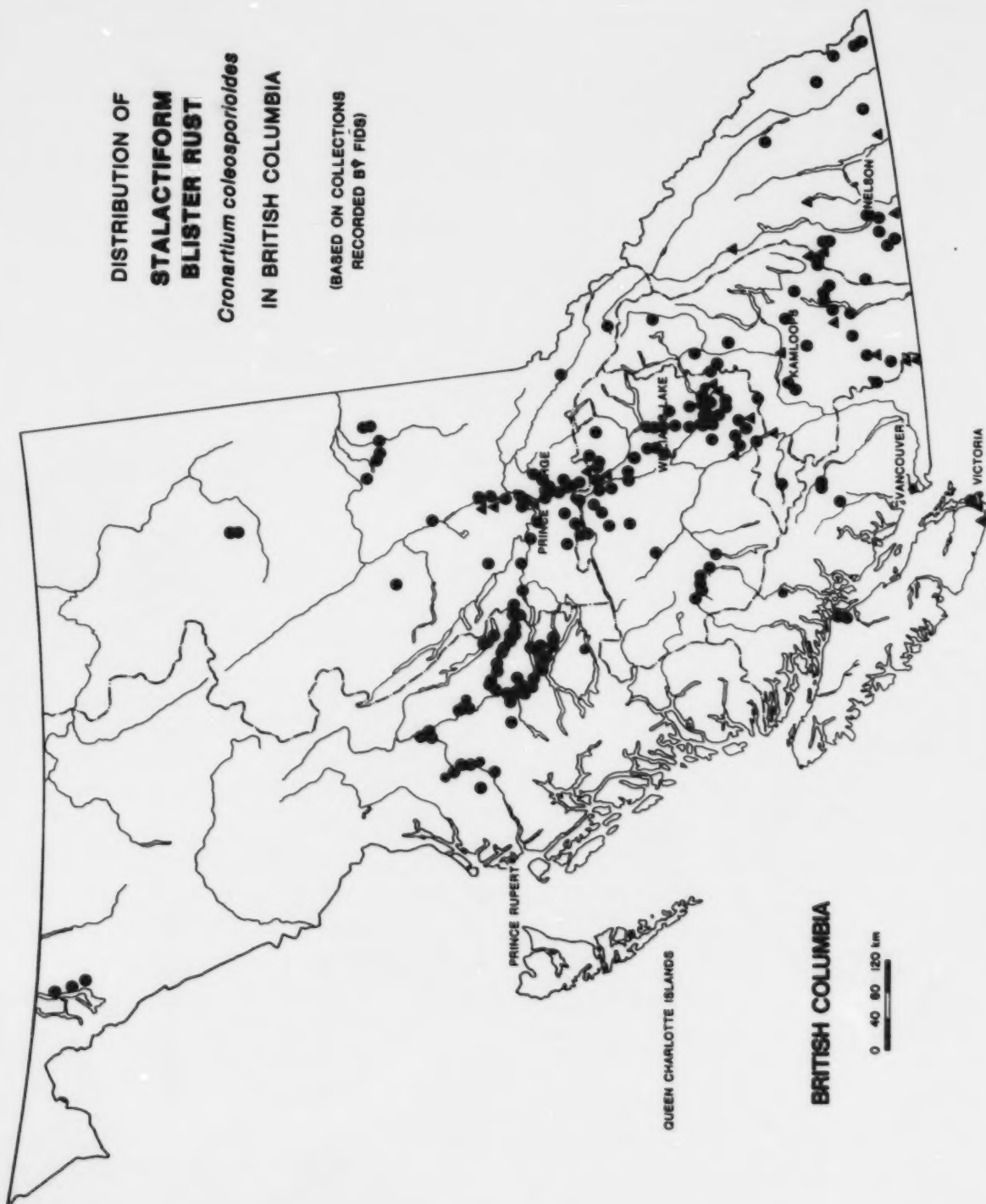


DISTRIBUTION OF
SCLEROPHOMA
BLIGHT OF CONIFERS
Sydowia polyspora
IN BRITISH COLUMBIA
(BASED ON COLLECTIONS
RECORDED BY FIDS)



**DISTRIBUTION OF
STALACTIFORM
BLISTER RUST**
Cronartium coleosporioides
IN BRITISH COLUMBIA

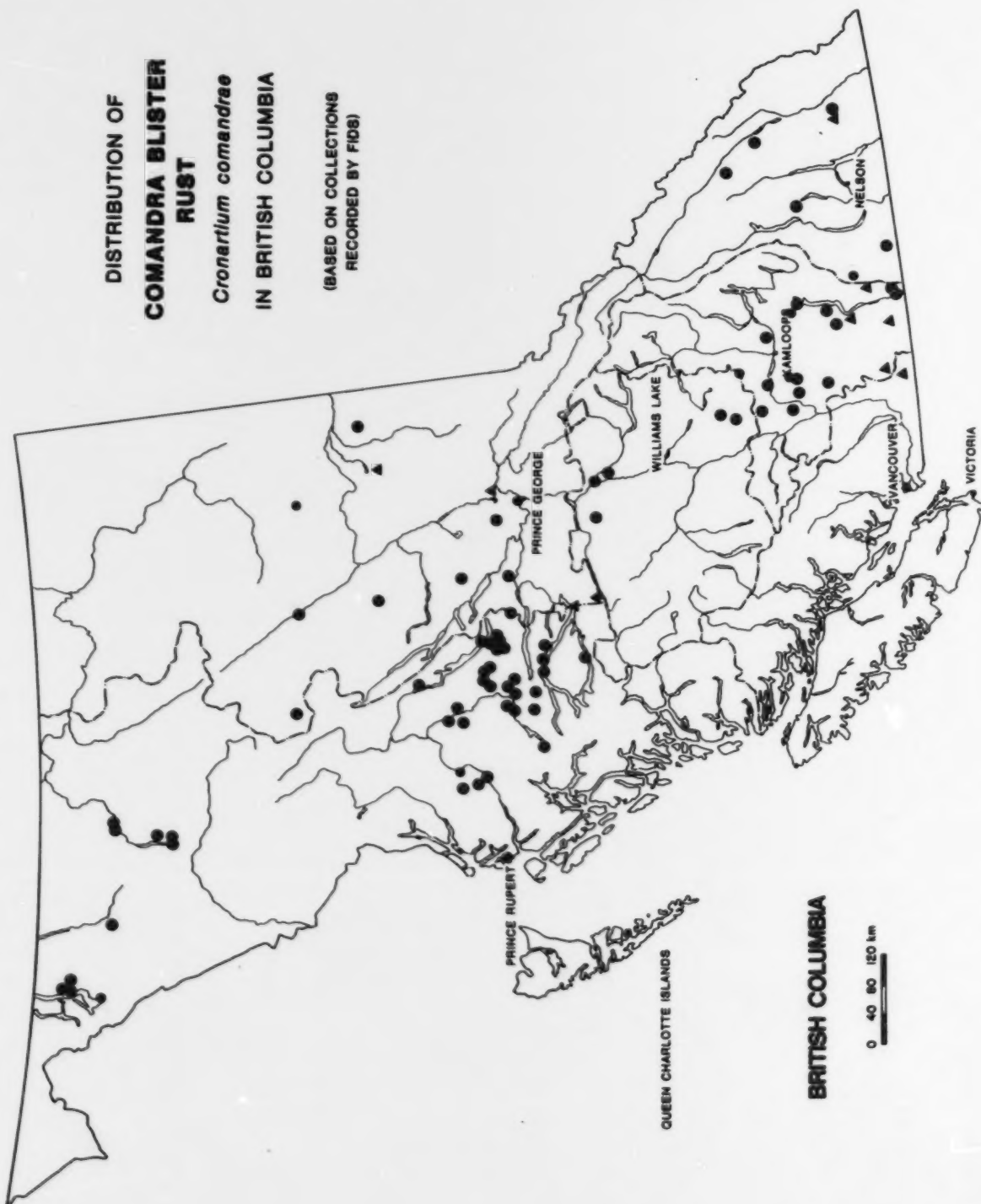
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DISTRIBUTION OF
**COMANDRA BLISTER
RUST**

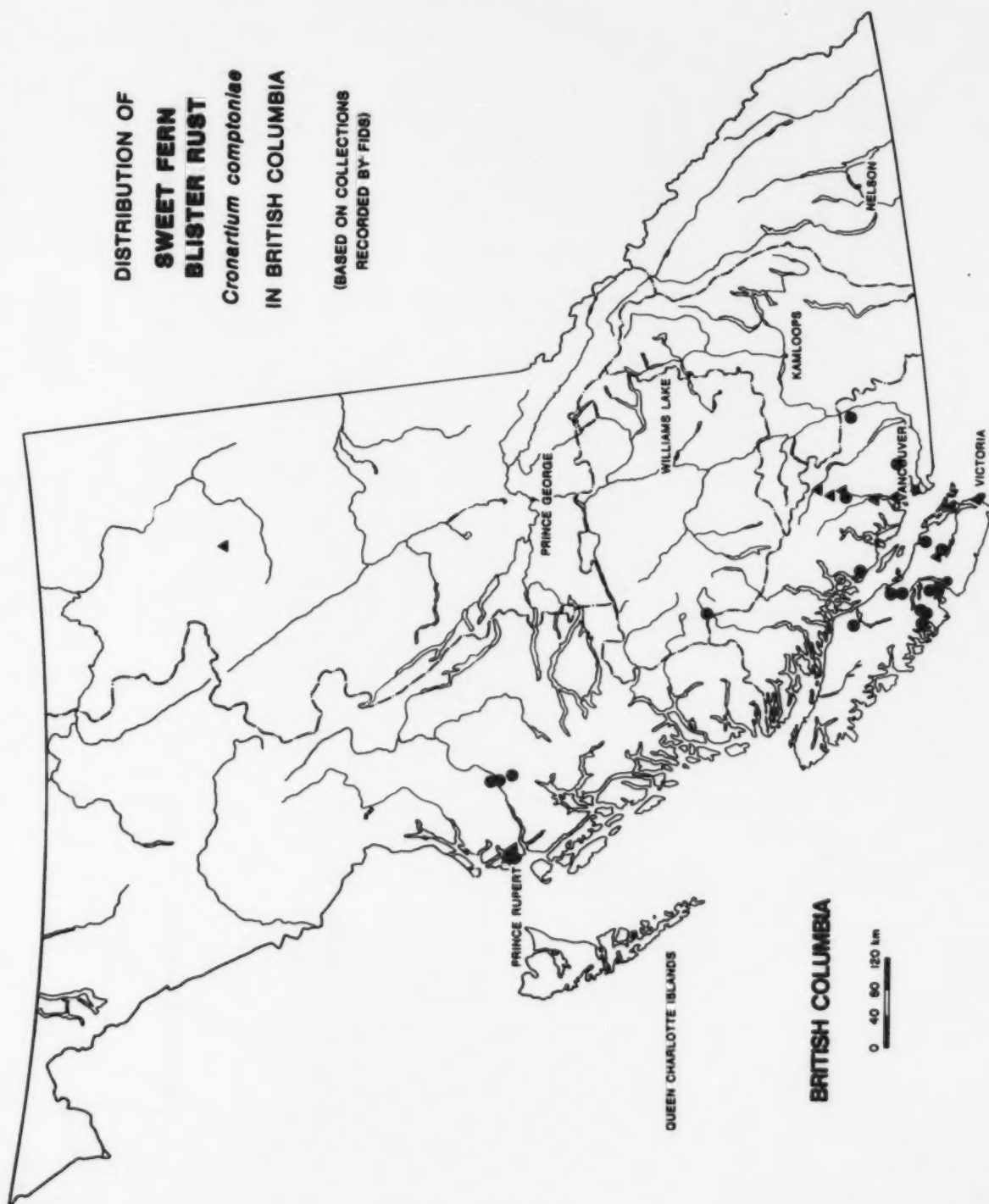
Cronartium comandrae
IN BRITISH COLUMBIA

(BASED ON COLLECTIONS
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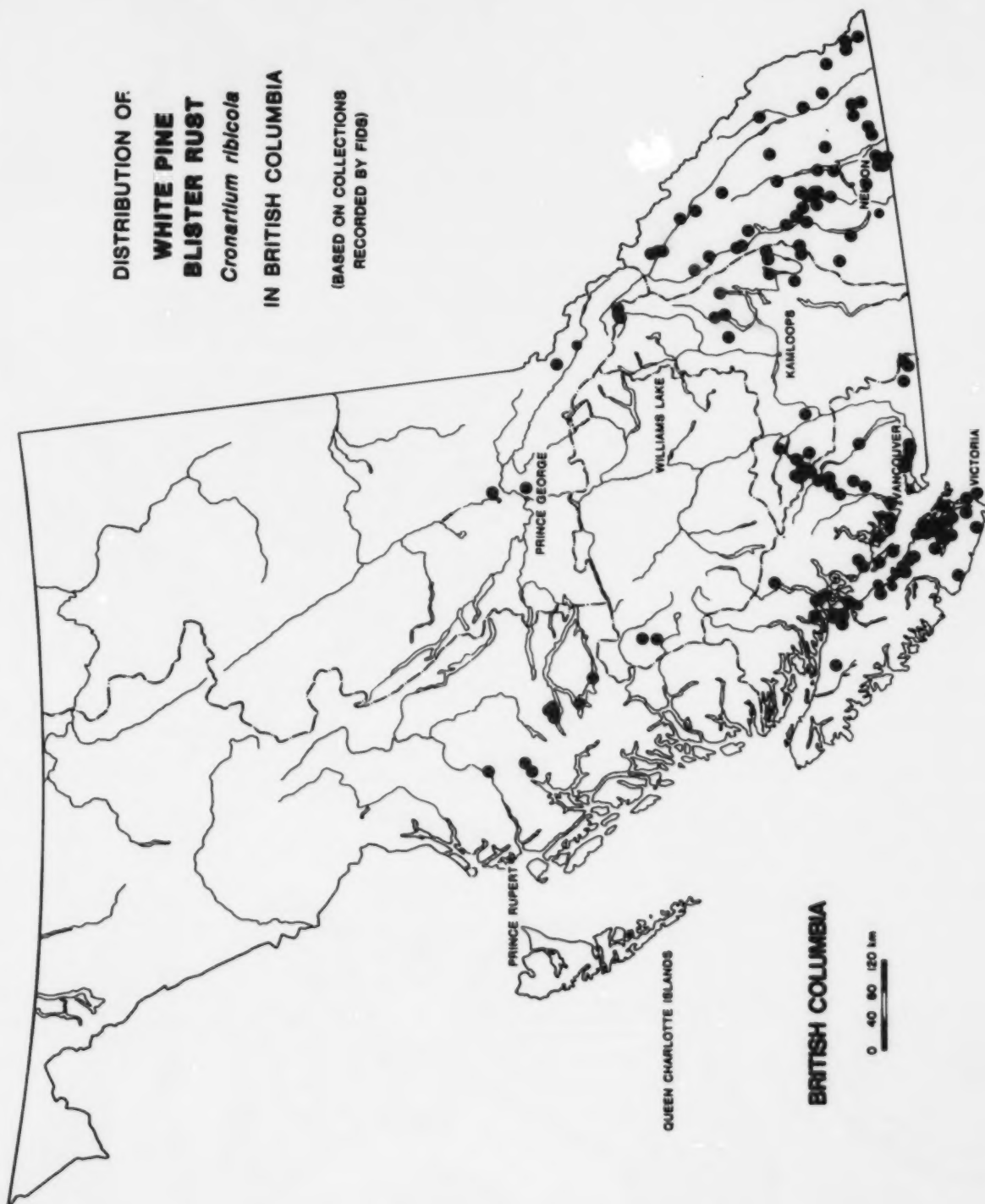
**DISTRIBUTION OF
SWEET FERN
BLISTER RUST
Cronartium comptoniae
IN BRITISH COLUMBIA**

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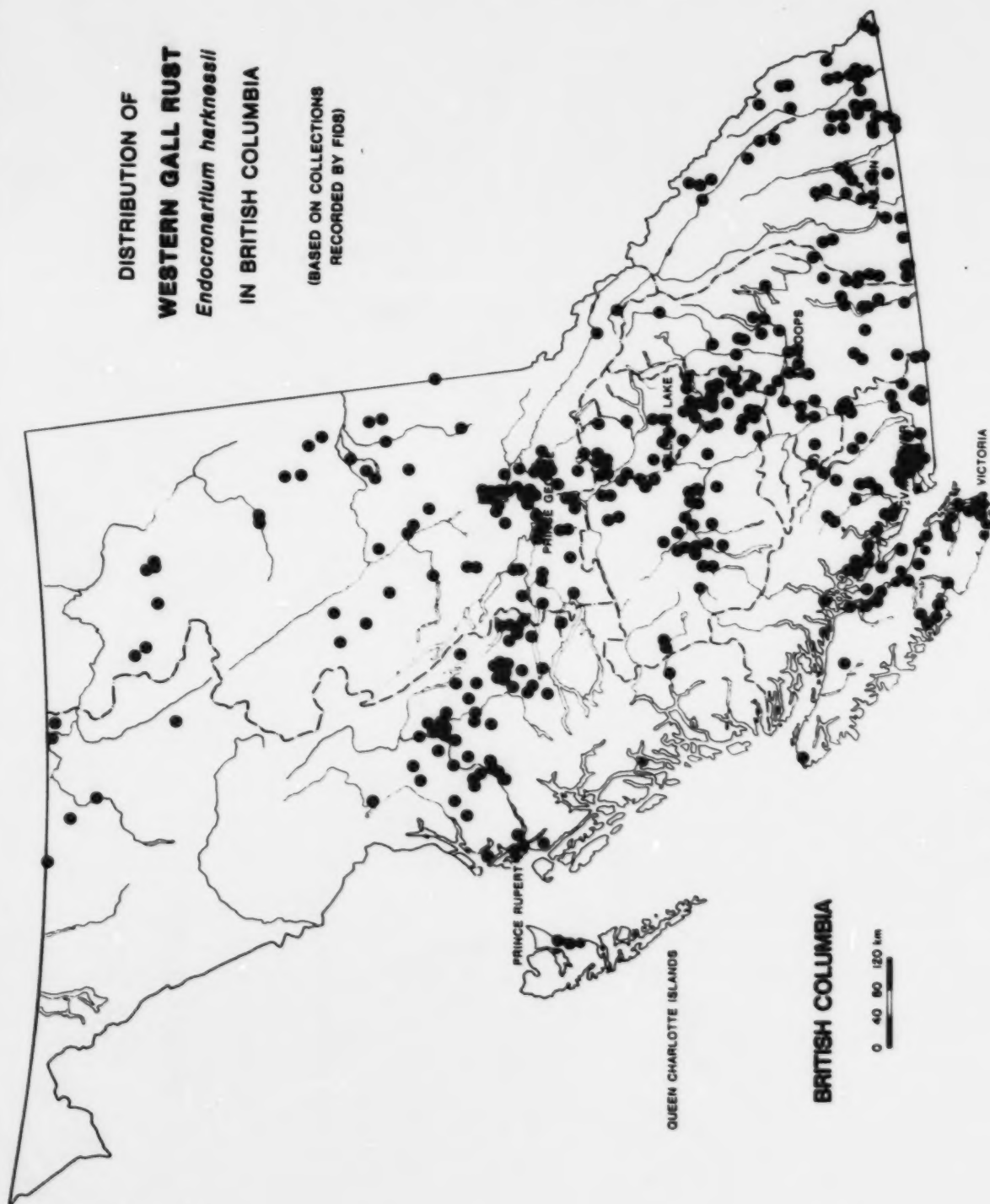
DISTRIBUTION OF
WHITE PINE
BLISTER RUST
Cronartium ribicola
IN BRITISH COLUMBIA

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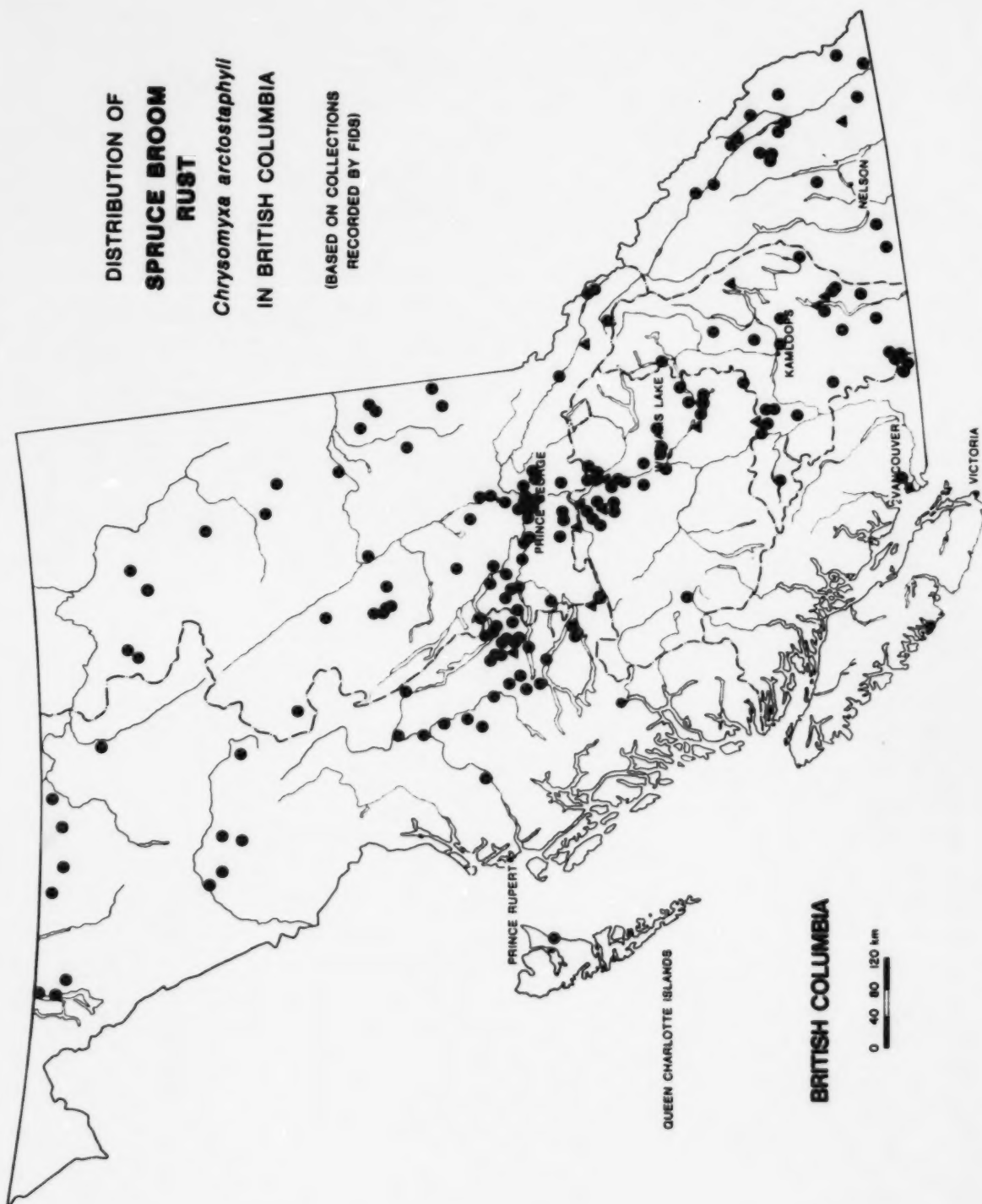
DISTRIBUTION OF
WESTERN GALL RUST
Endocronartium harknessii
IN BRITISH COLUMBIA

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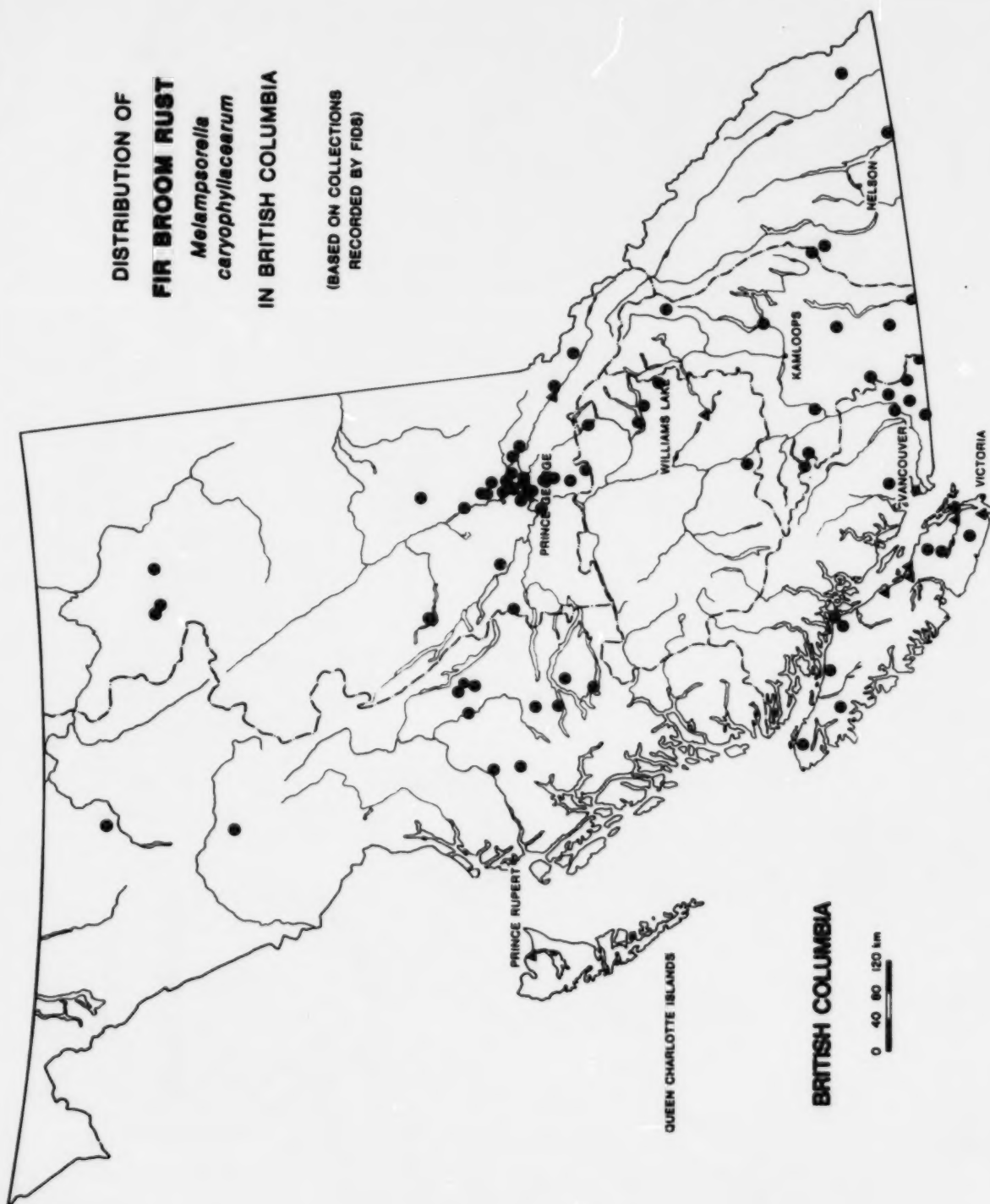
DISTRIBUTION OF
**SPRUCE BROOM
RUST**
Chrysomyxa arclostaphylli
IN BRITISH COLUMBIA

(BASED ON COLLECTIONS
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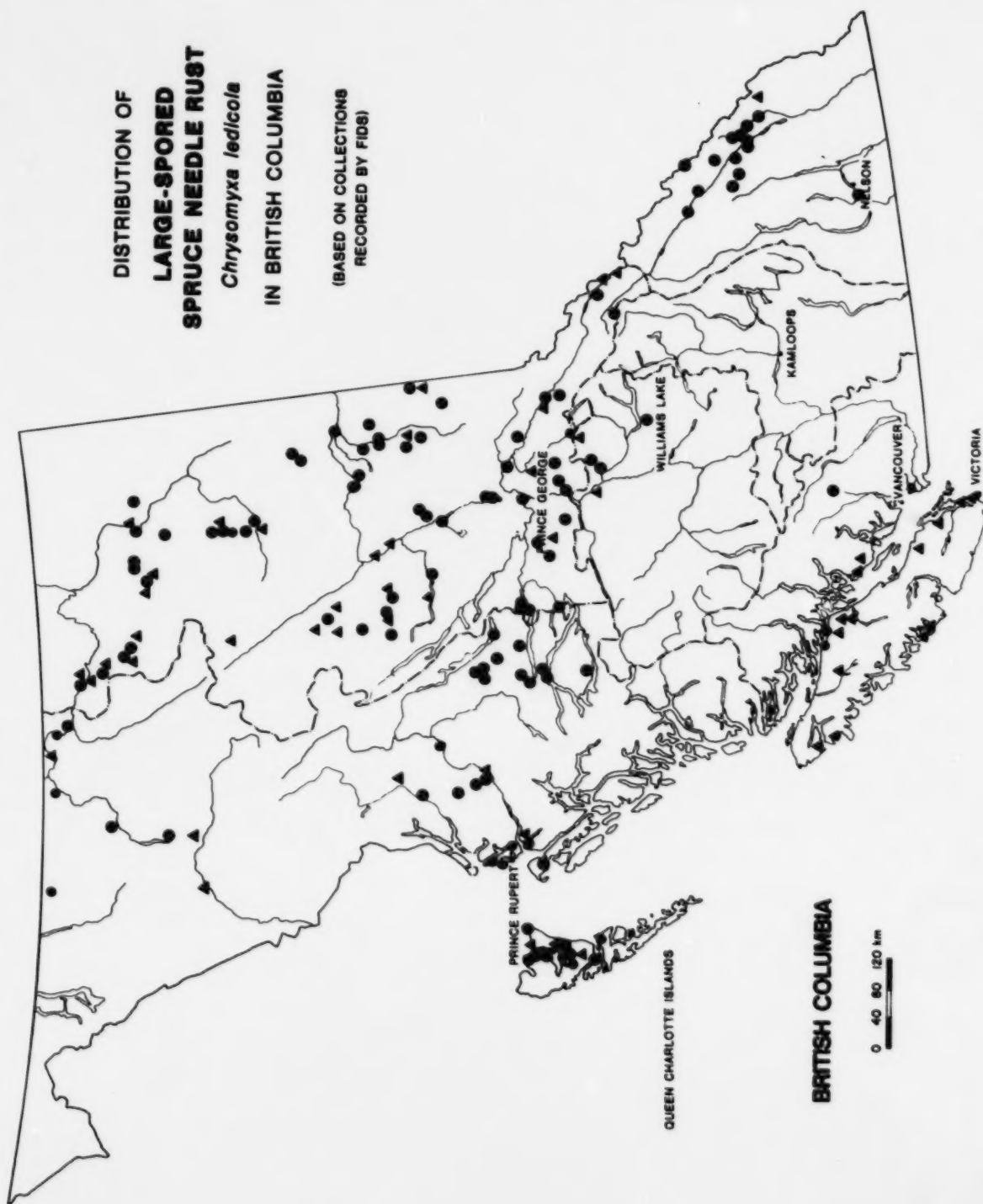
DISTRIBUTION OF
FIR BROOM RUST
Melampsorella
caryophyllacearum
IN BRITISH COLUMBIA

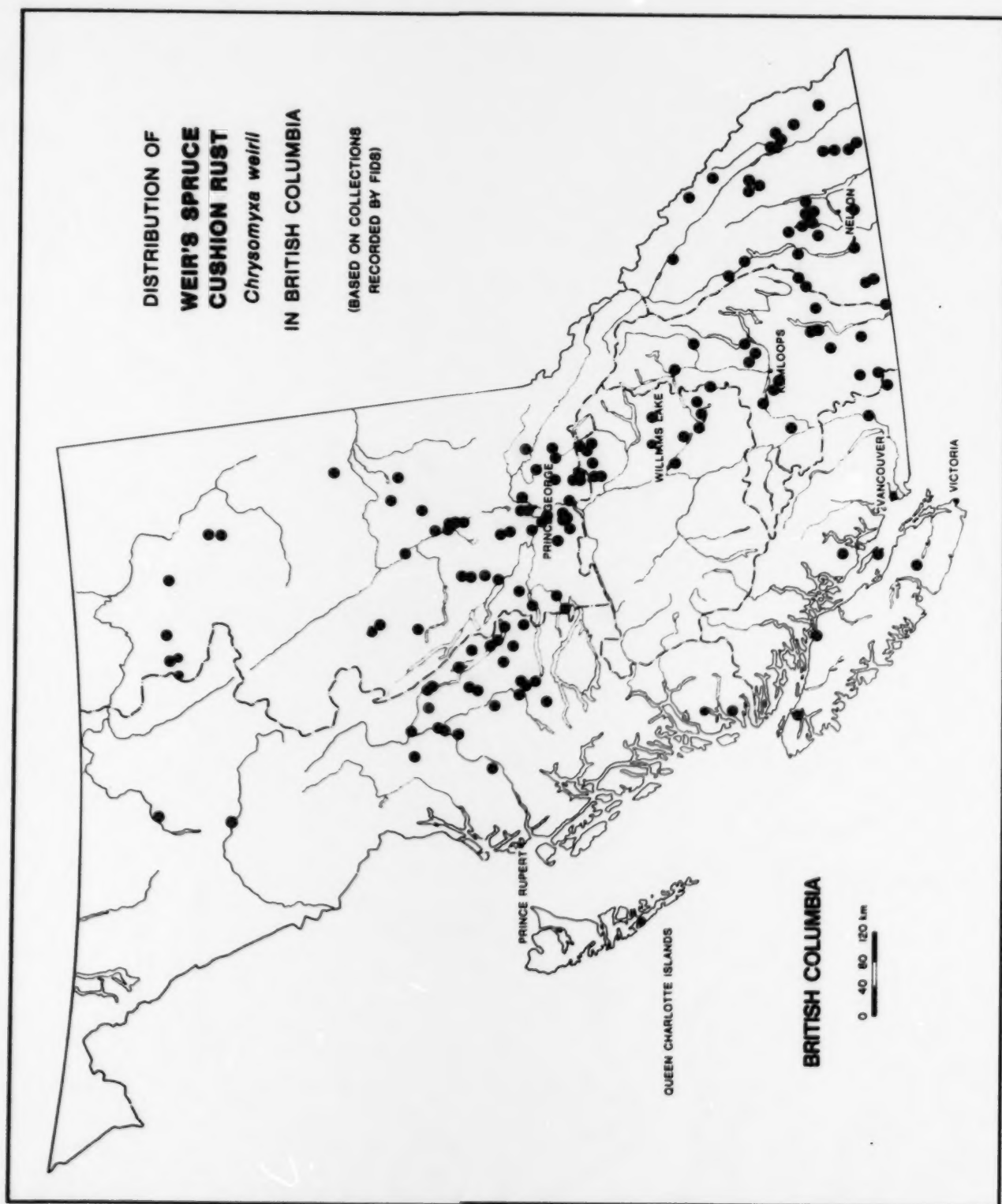
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**DISTRIBUTION OF
LARGE-SPORED
SPRUCE NEEDLE RUST**
Chrysomyxa ledicola
IN BRITISH COLUMBIA

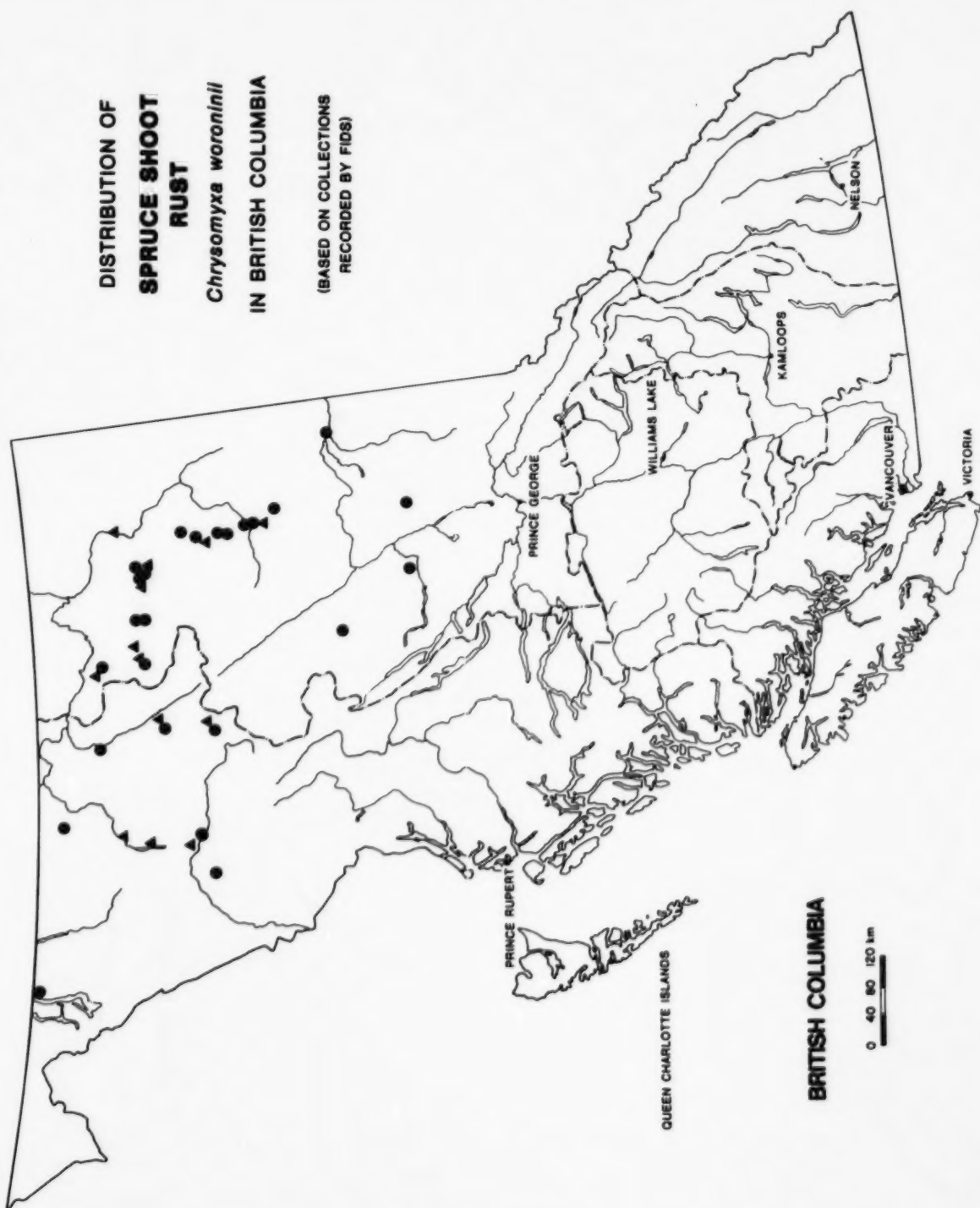
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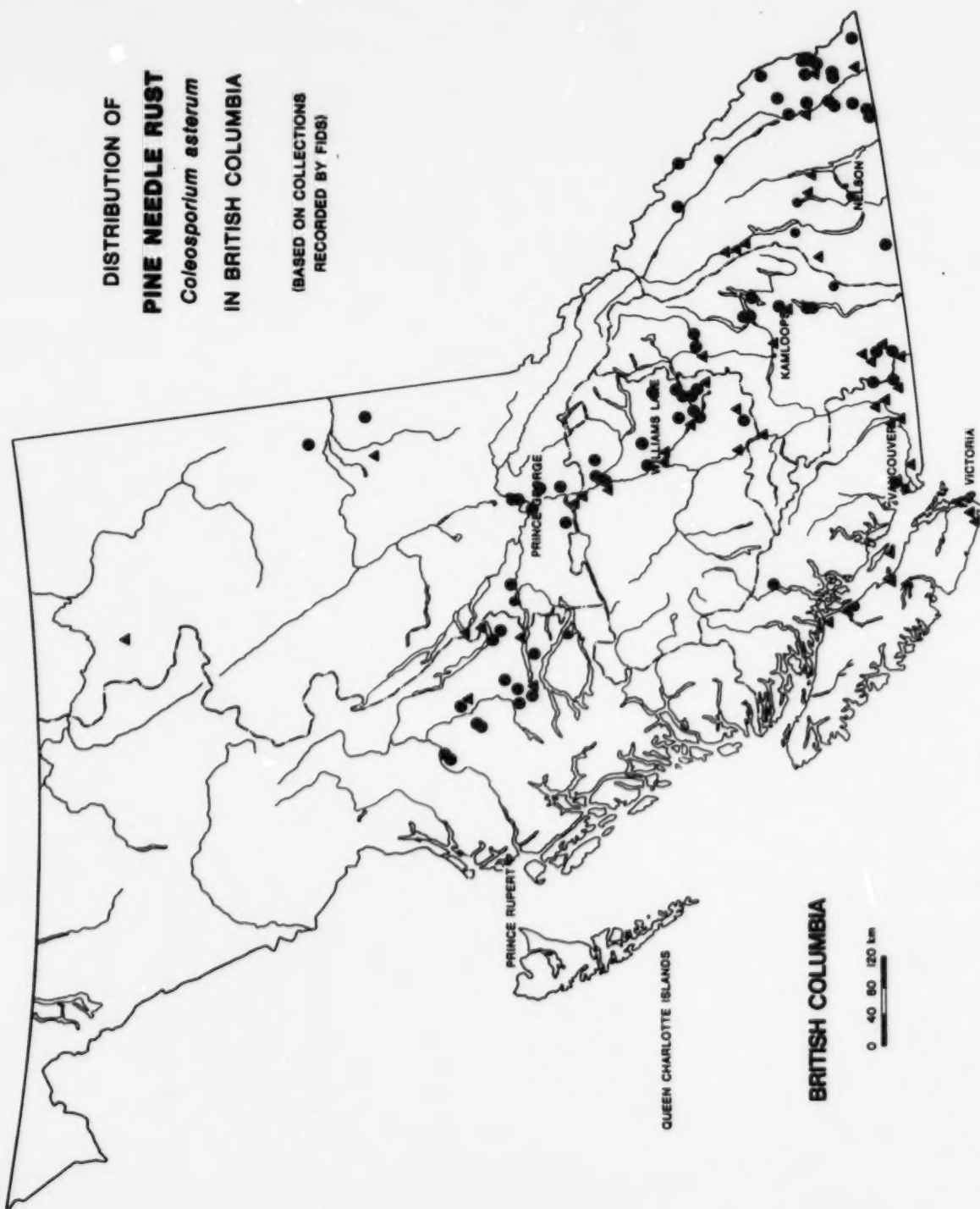
DISTRIBUTION OF
**SPRUCE SHOOT
RUST**
Chrysomyxa woroninii
IN BRITISH COLUMBIA

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RECORDED BY FIDS)



**DISTRIBUTION OF
PINE NEEDLE RUST
Coleosporium asterum
IN BRITISH COLUMBIA**

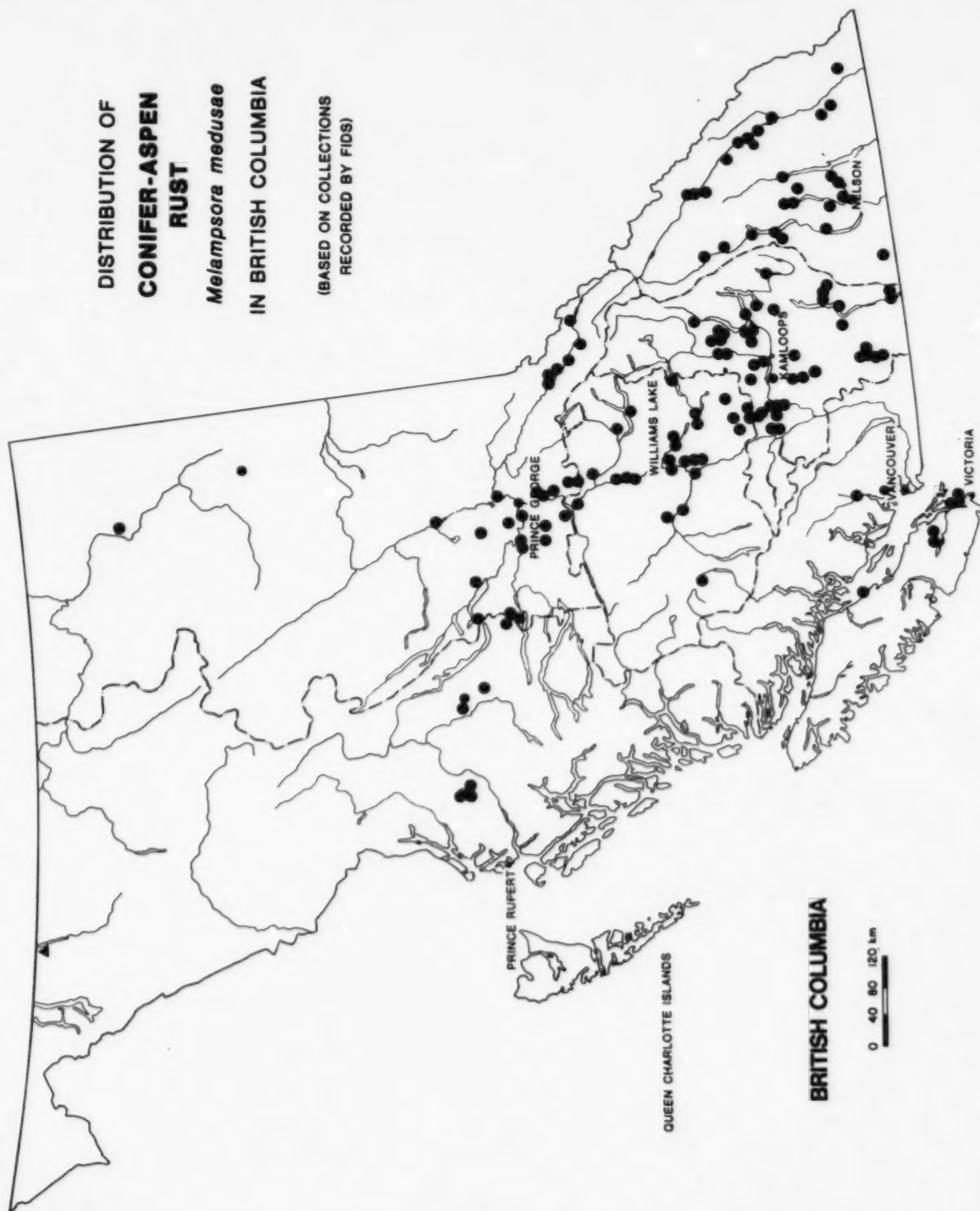
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DISTRIBUTION OF
**CONIFER-ASPEN
RUST**

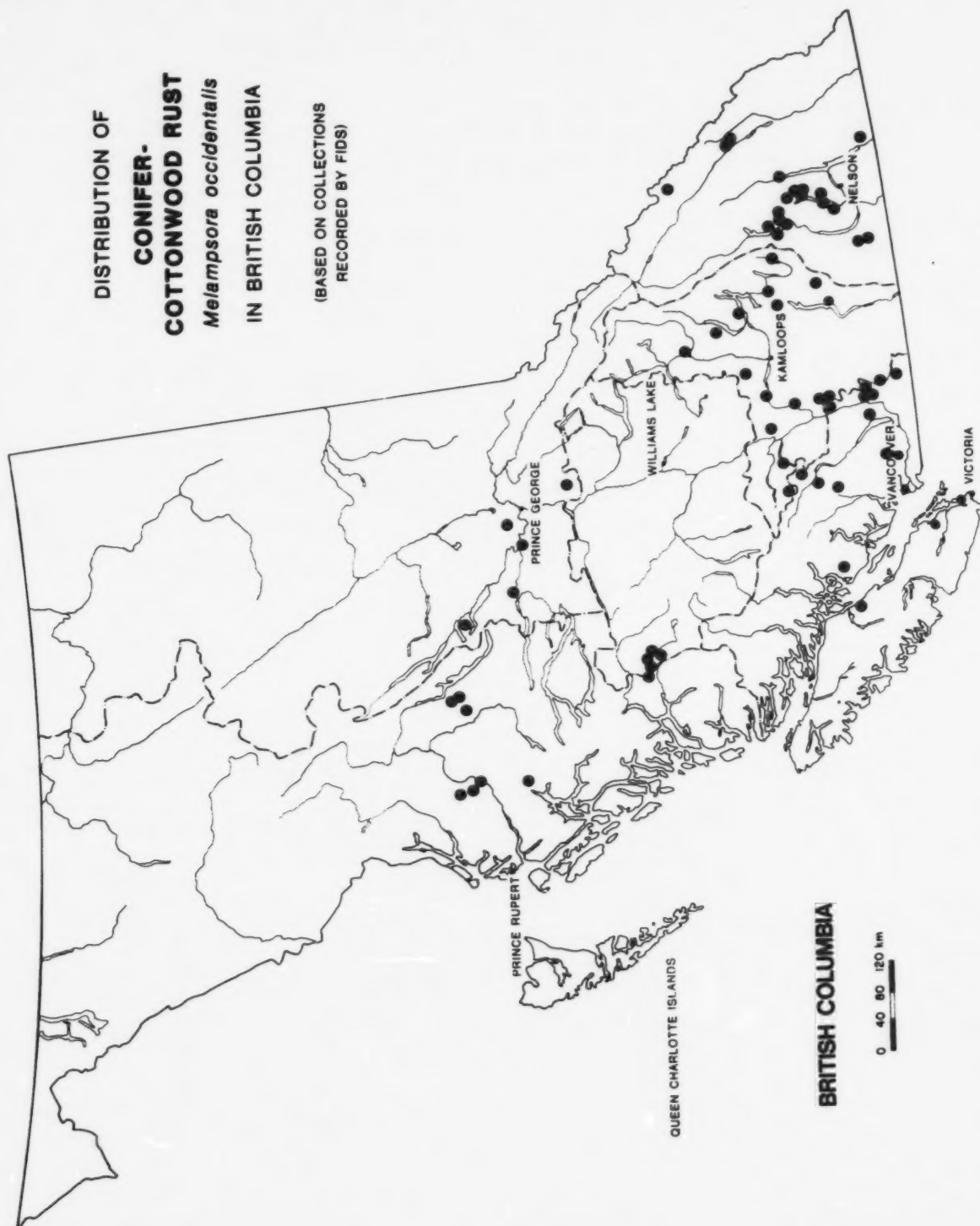
Melampsora medusae
IN BRITISH COLUMBIA

(BASED ON COLLECTIONS
RECORDED BY FIDS)



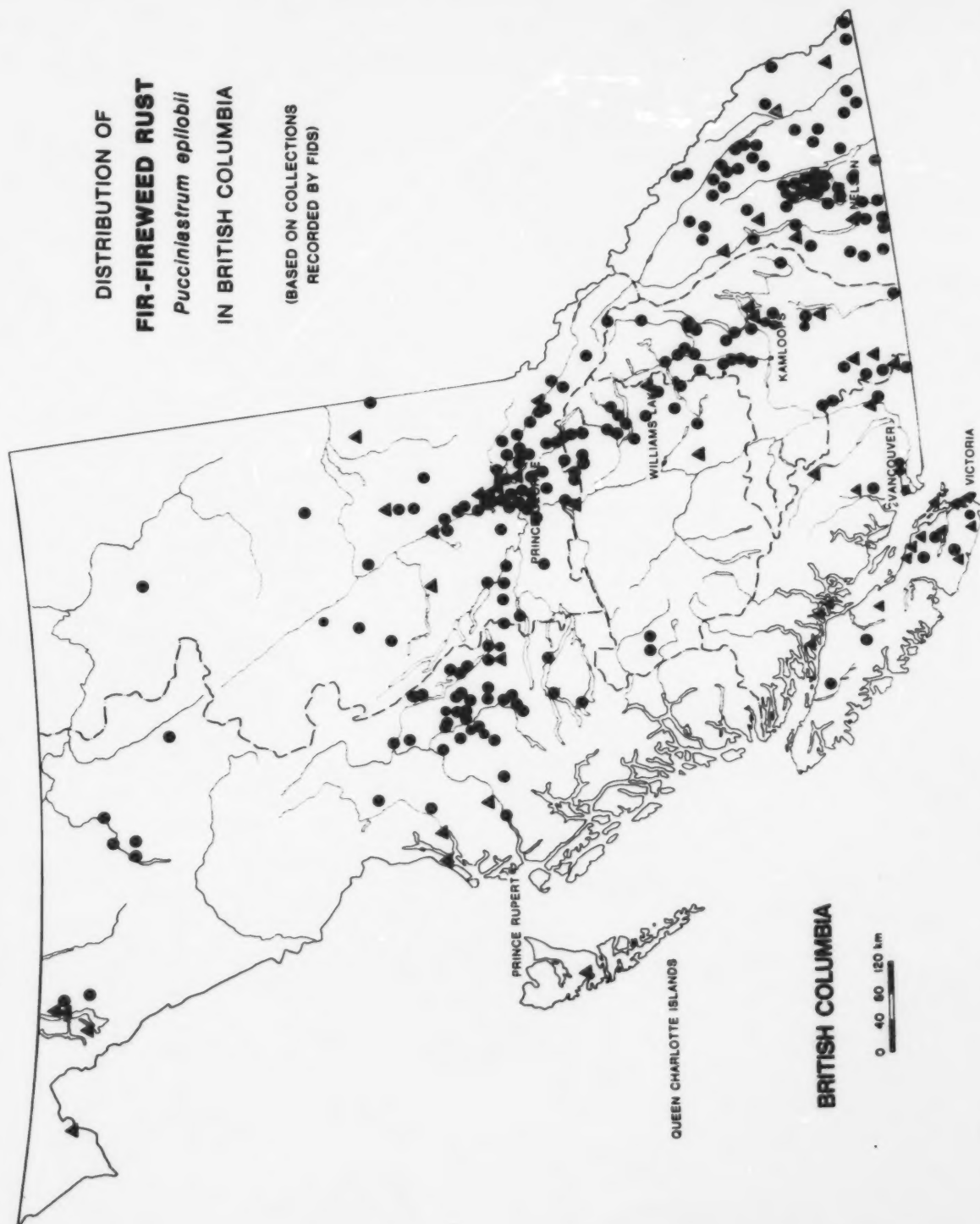
DISTRIBUTION OF
**CONIFER-
COTTONWOOD RUST**
Melampsora occidentalis
IN BRITISH COLUMBIA

(BASED ON COLLECTIONS
RECORDED BY FIDS)



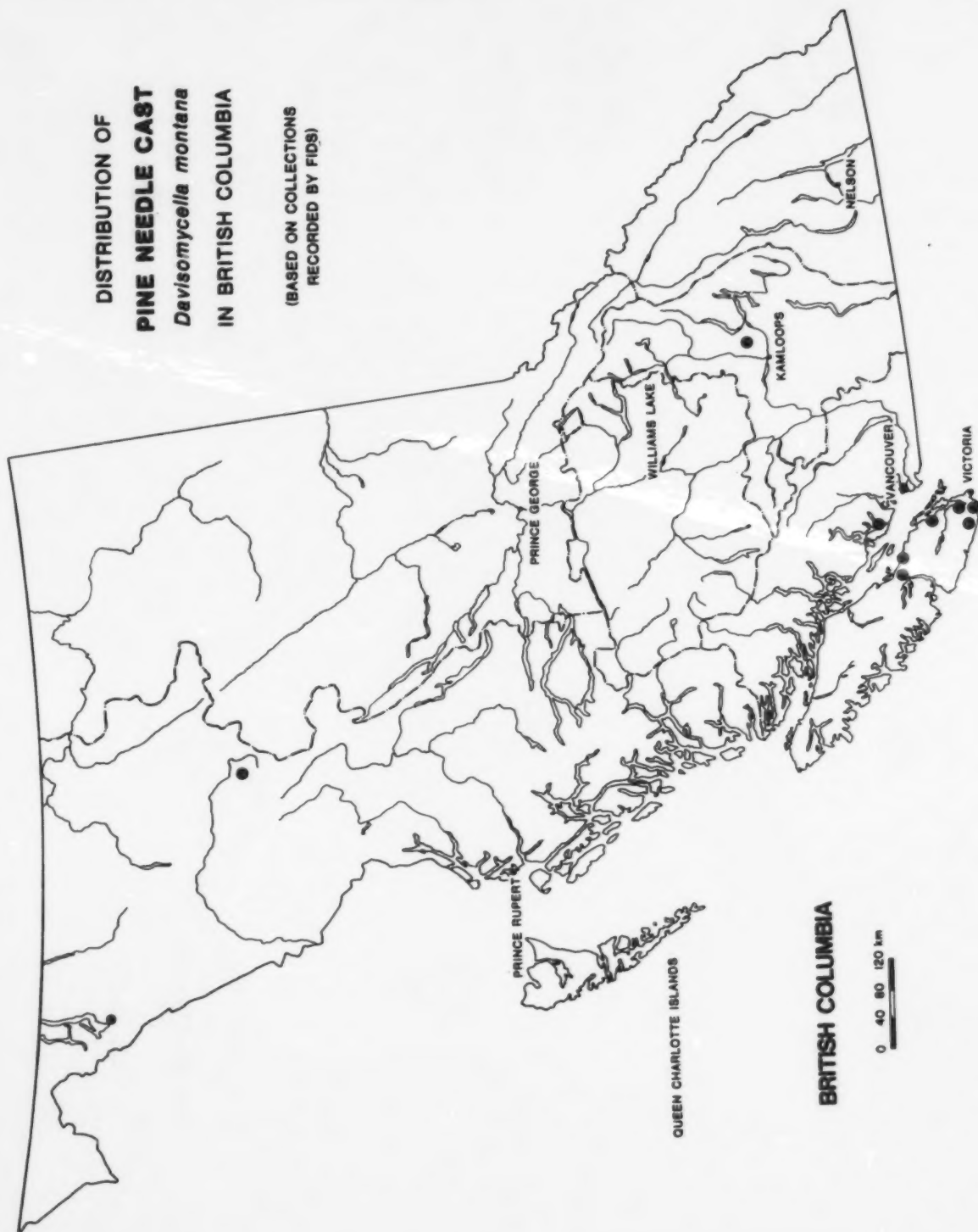
DISTRIBUTION OF
FIR-FIREWEED RUST
Pucciniastrum epilobii
IN BRITISH COLUMBIA

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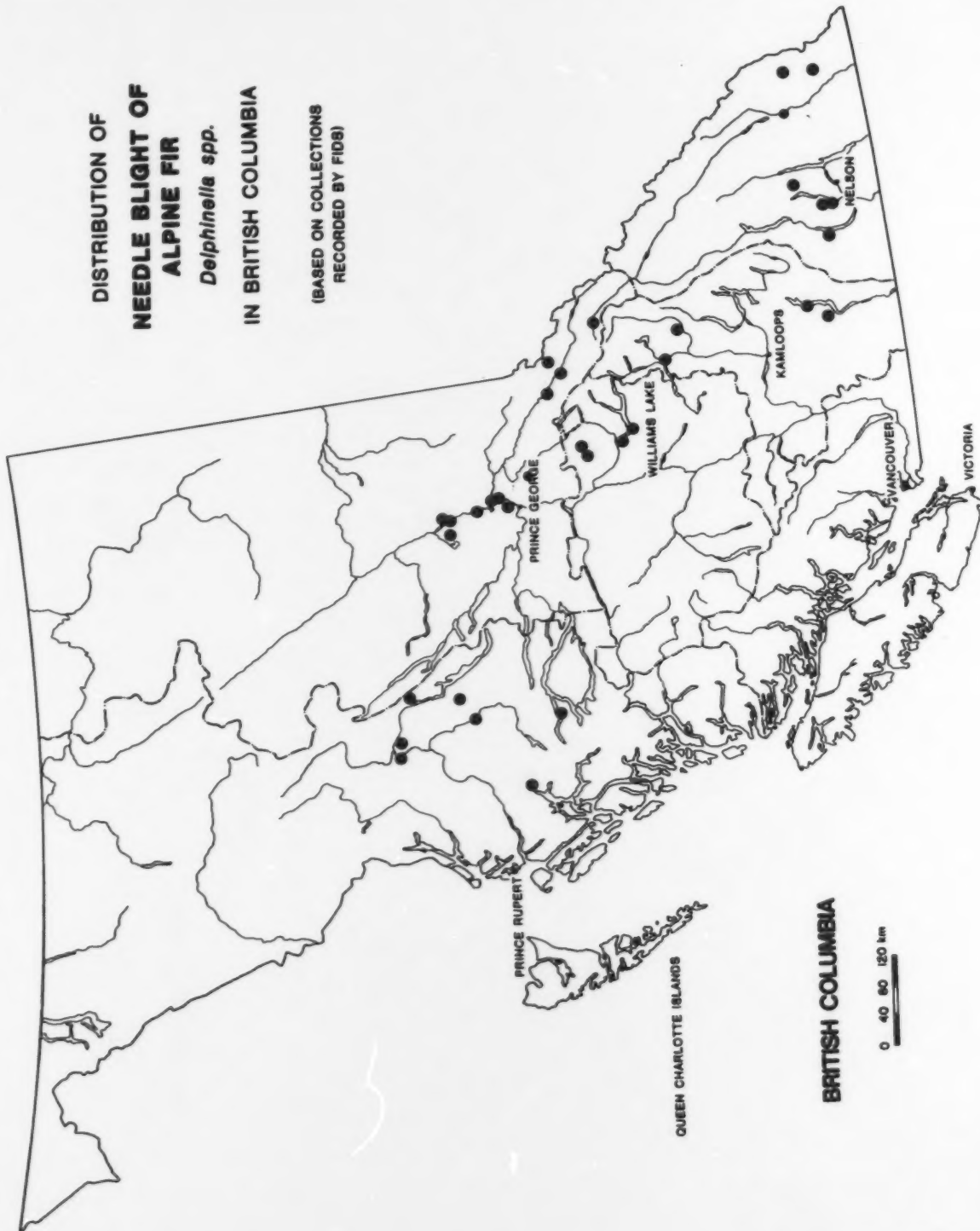
**DISTRIBUTION OF
PINE NEEDLE CAST
Davisomyces montana
IN BRITISH COLUMBIA**

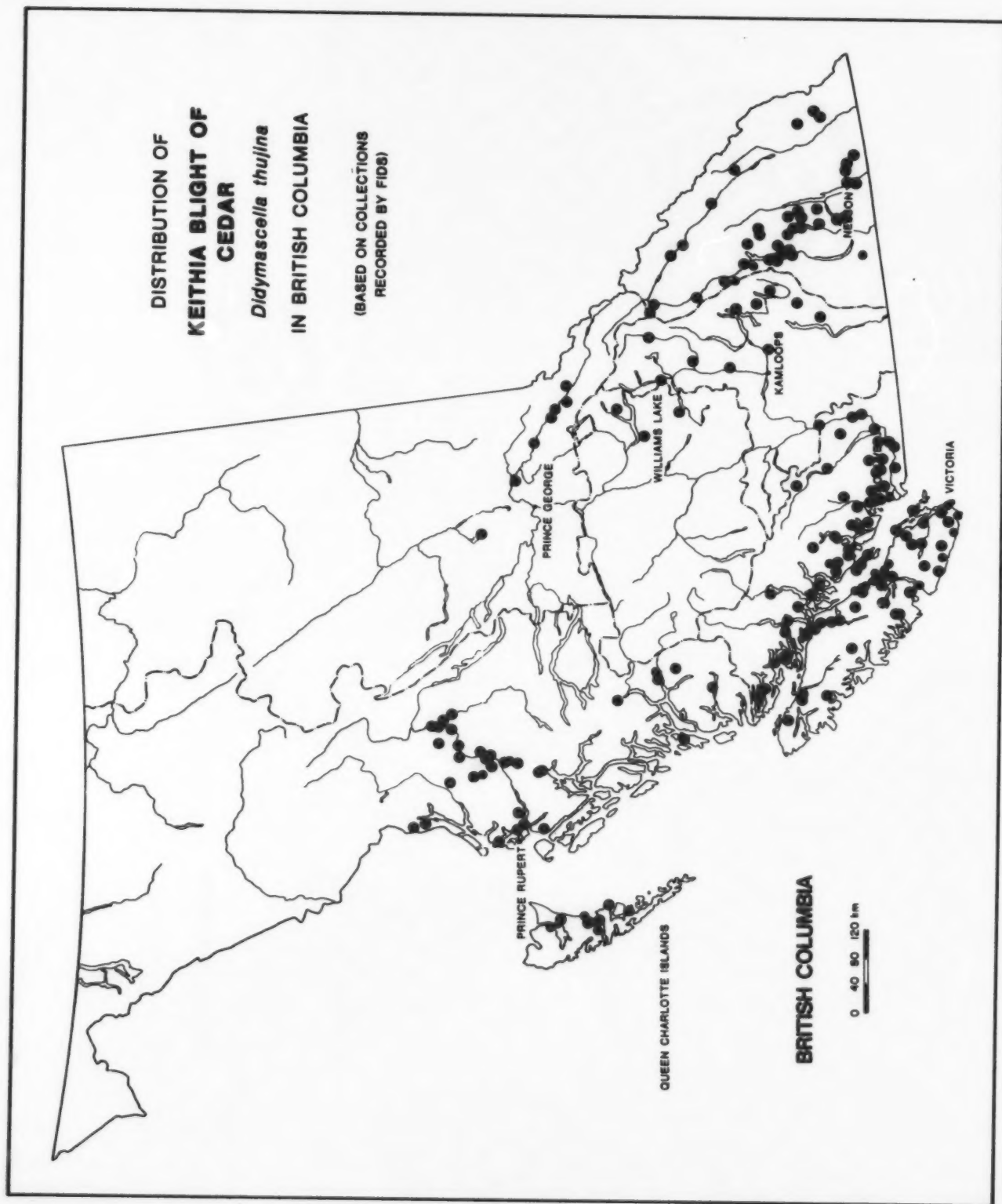
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DISTRIBUTION OF
**NEEDLE BLIGHT OF
ALPINE FIR**
Delphinella spp.
IN BRITISH COLUMBIA

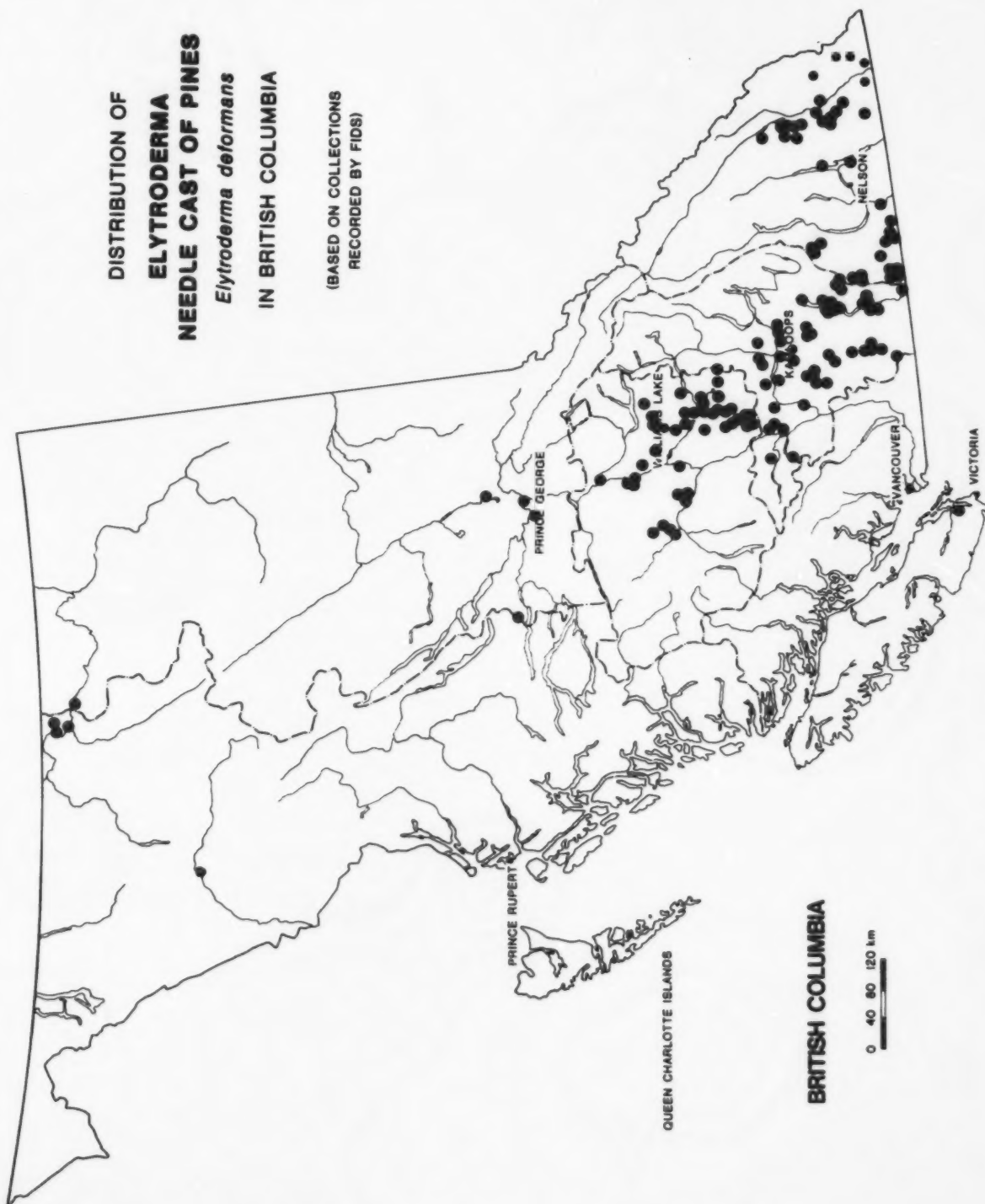
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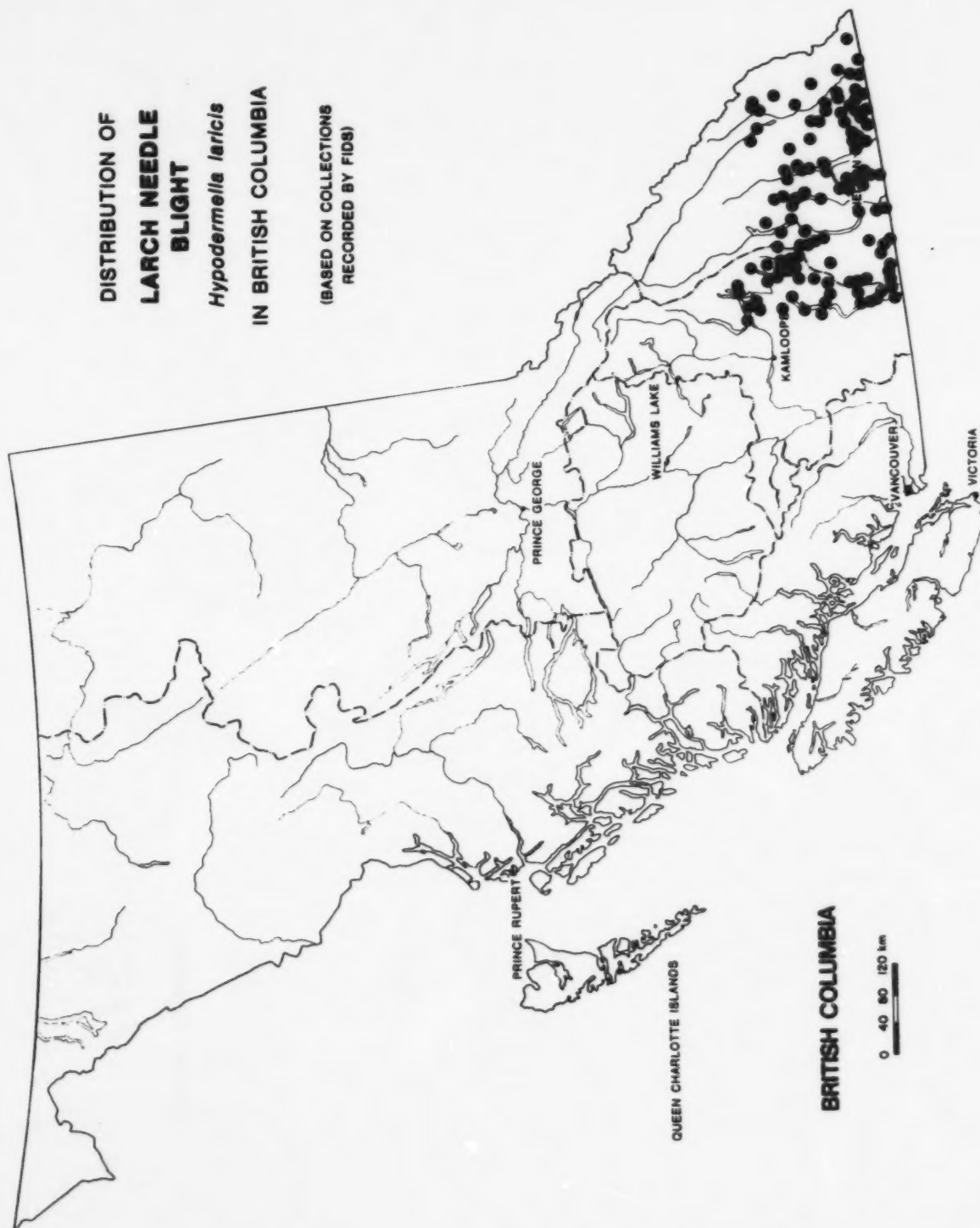
DISTRIBUTION OF
ELYTRODERMA
NEEDLE CAST OF PINES
Elytroderma deformans
IN BRITISH COLUMBIA

(BASED ON COLLECTIONS
RECORDED BY FIDS)



**DISTRIBUTION OF
LARCH NEEDLE
BLIGHT**
Hypodermella laricis
IN BRITISH COLUMBIA

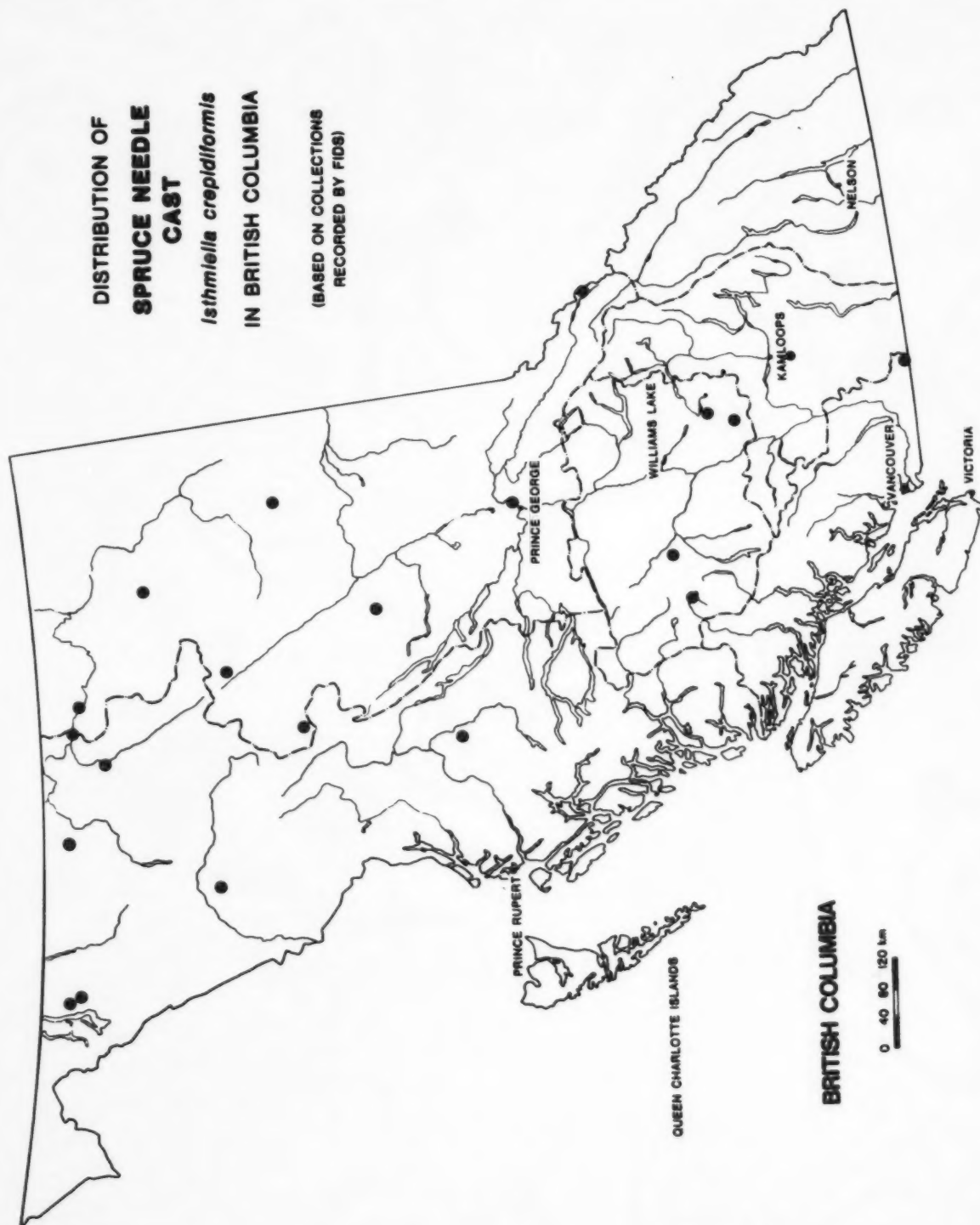
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DISTRIBUTION OF
**SPRUCE NEEDLE
CAST**

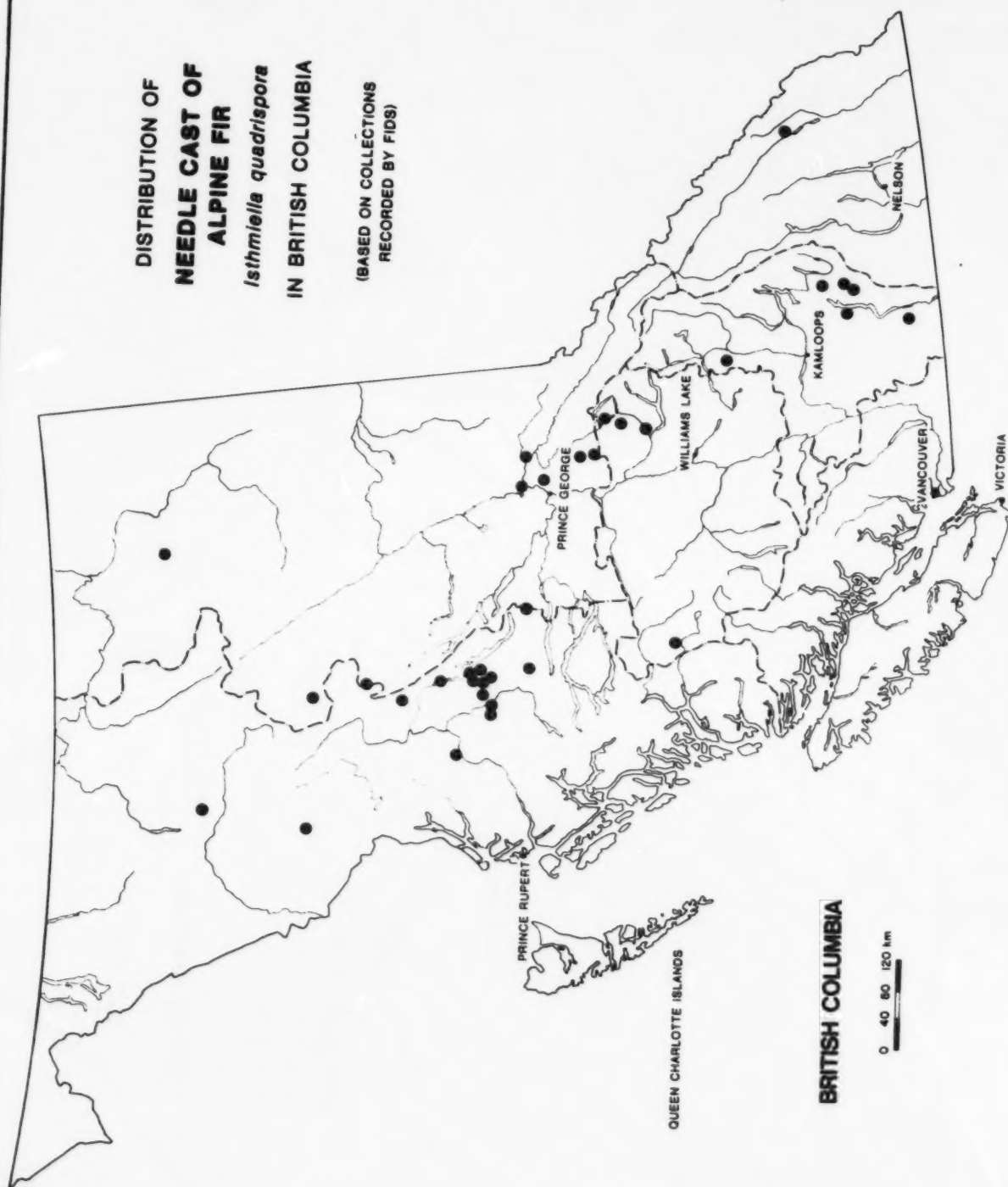
Isthmiella crepidiformis
IN BRITISH COLUMBIA

(BASED ON COLLECTIONS
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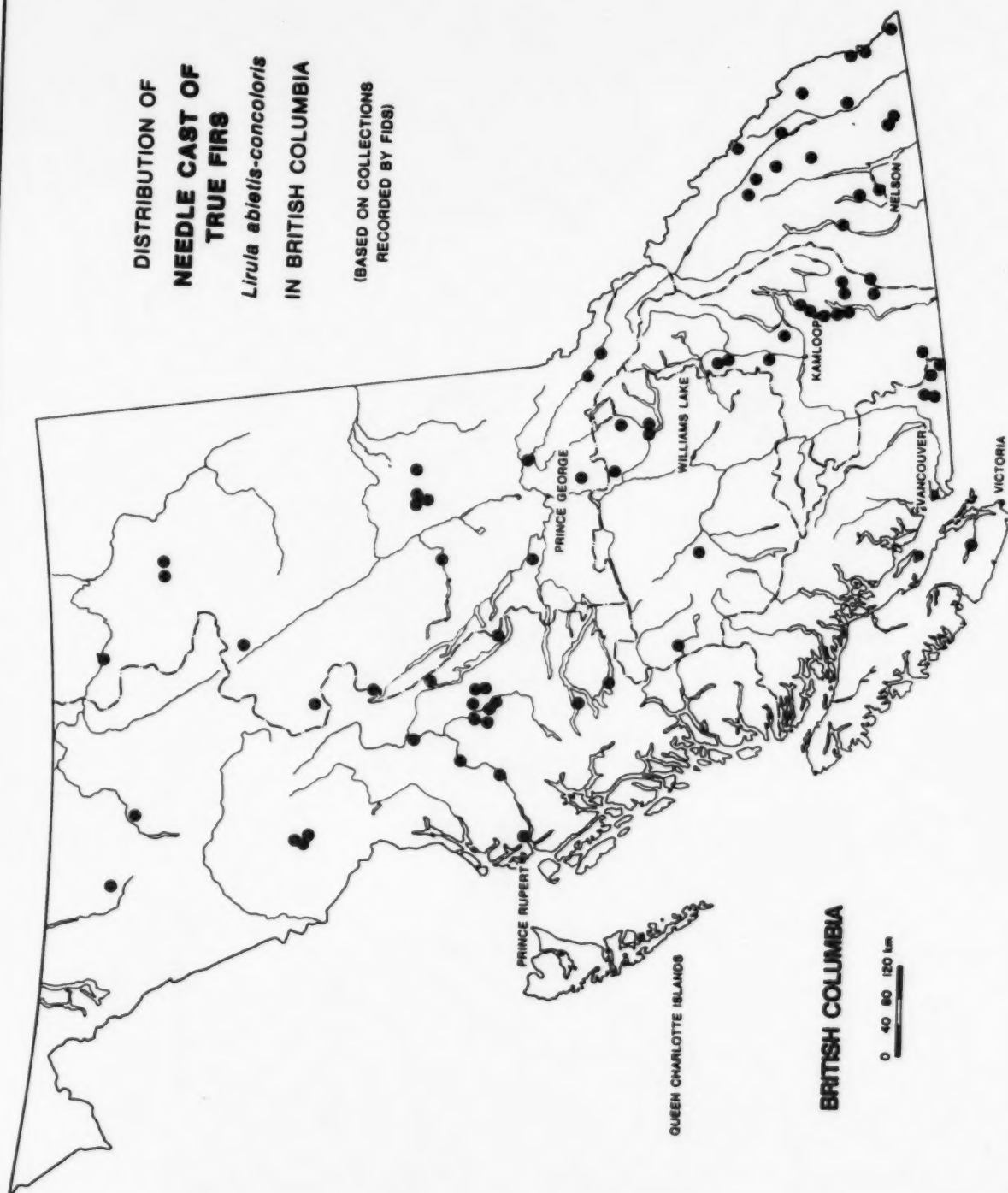
DISTRIBUTION OF
**NEEDLE CAST OF
ALPINE FIR**
Isthmiella quadrispora
IN BRITISH COLUMBIA

(BASED ON COLLECTIONS
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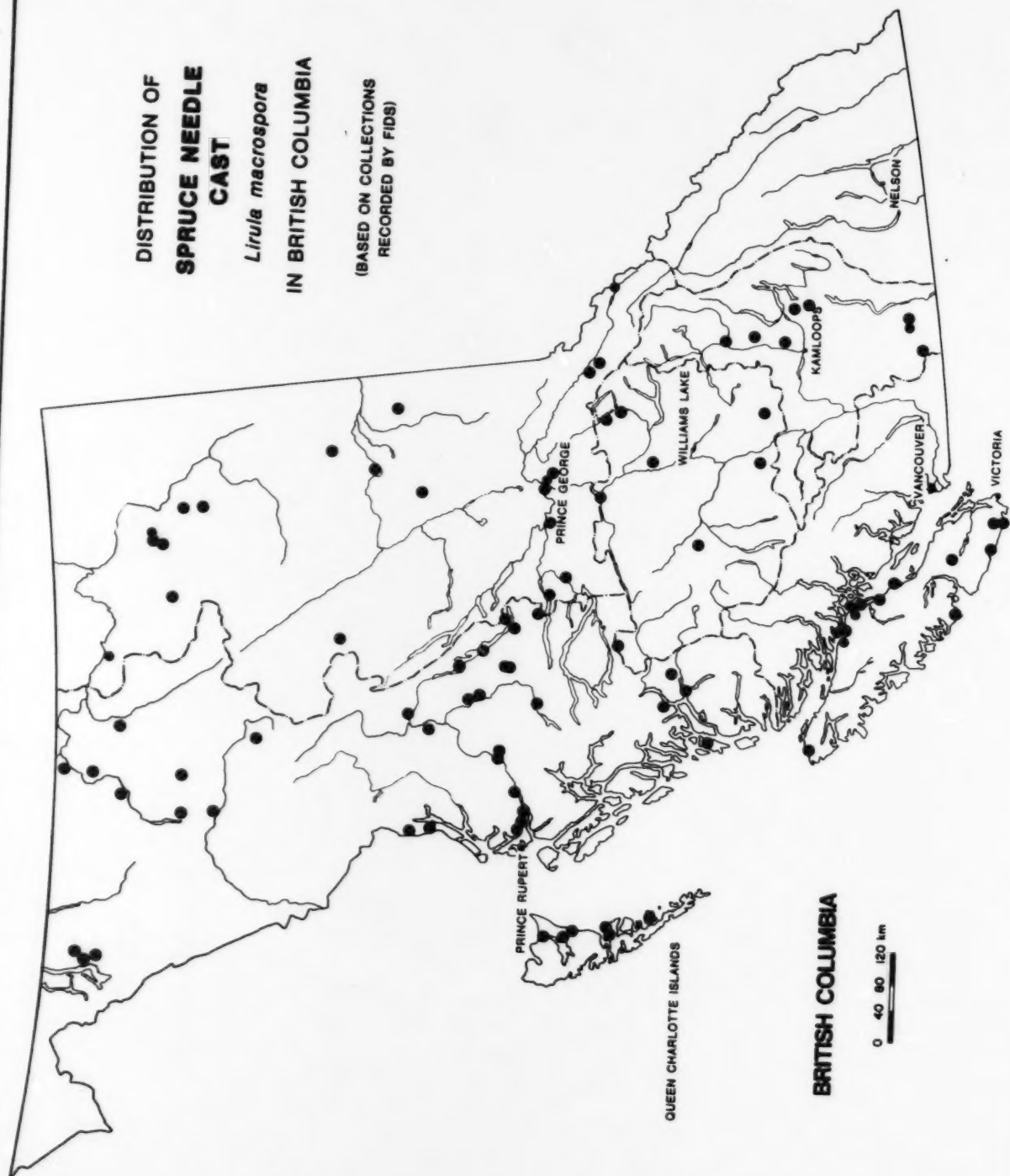
DISTRIBUTION OF
NEEDLE CAST OF
TRUE FIRS
Lirula abietis-concoloris
IN BRITISH COLUMBIA

(BASED ON COLLECTIONS
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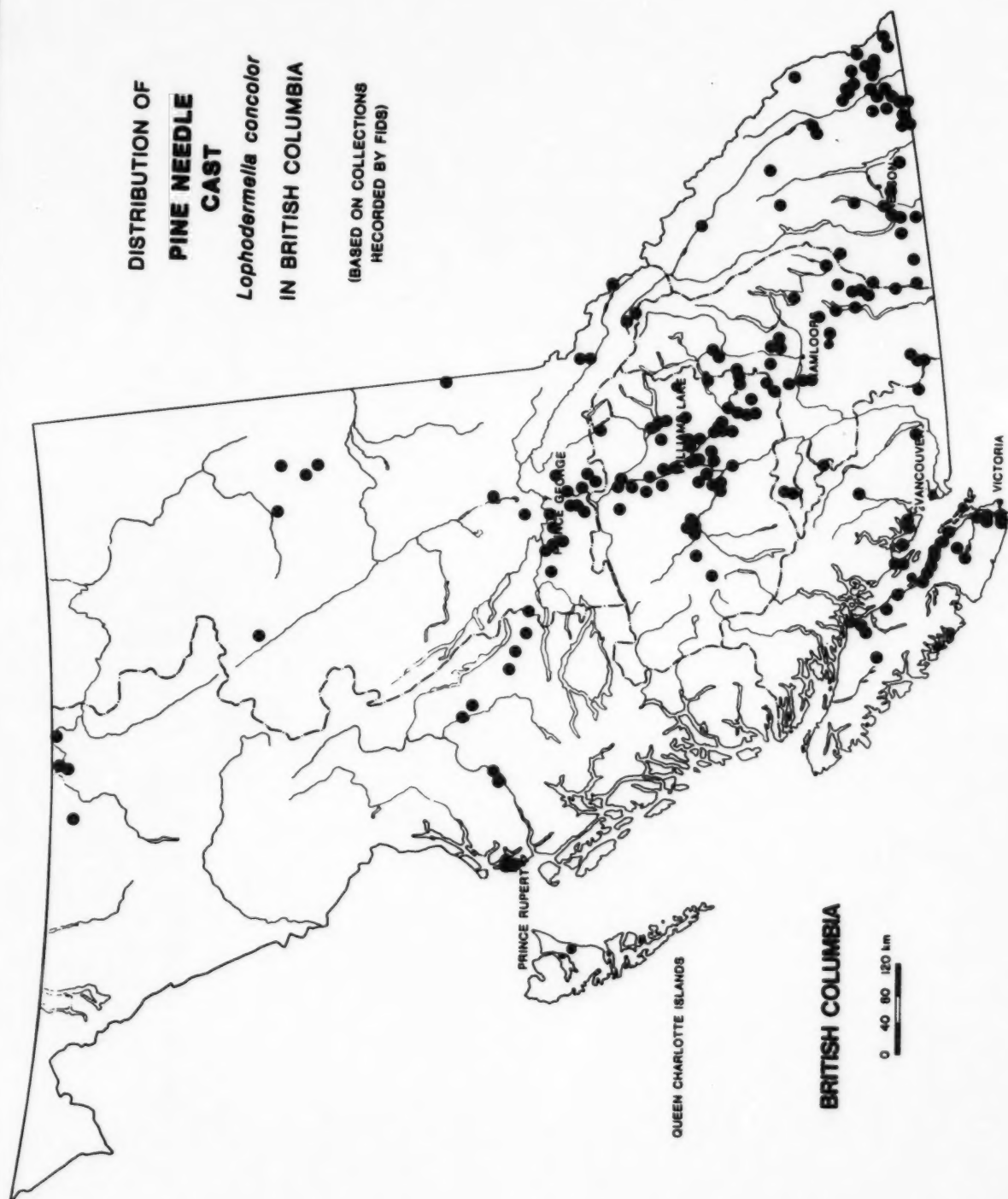


**DISTRIBUTION OF
SPRUCE NEEDLE
CAST**
Lirula macrospora
IN BRITISH COLUMBIA

(BASED ON COLLECTIONS
RECORDED BY FIDS)

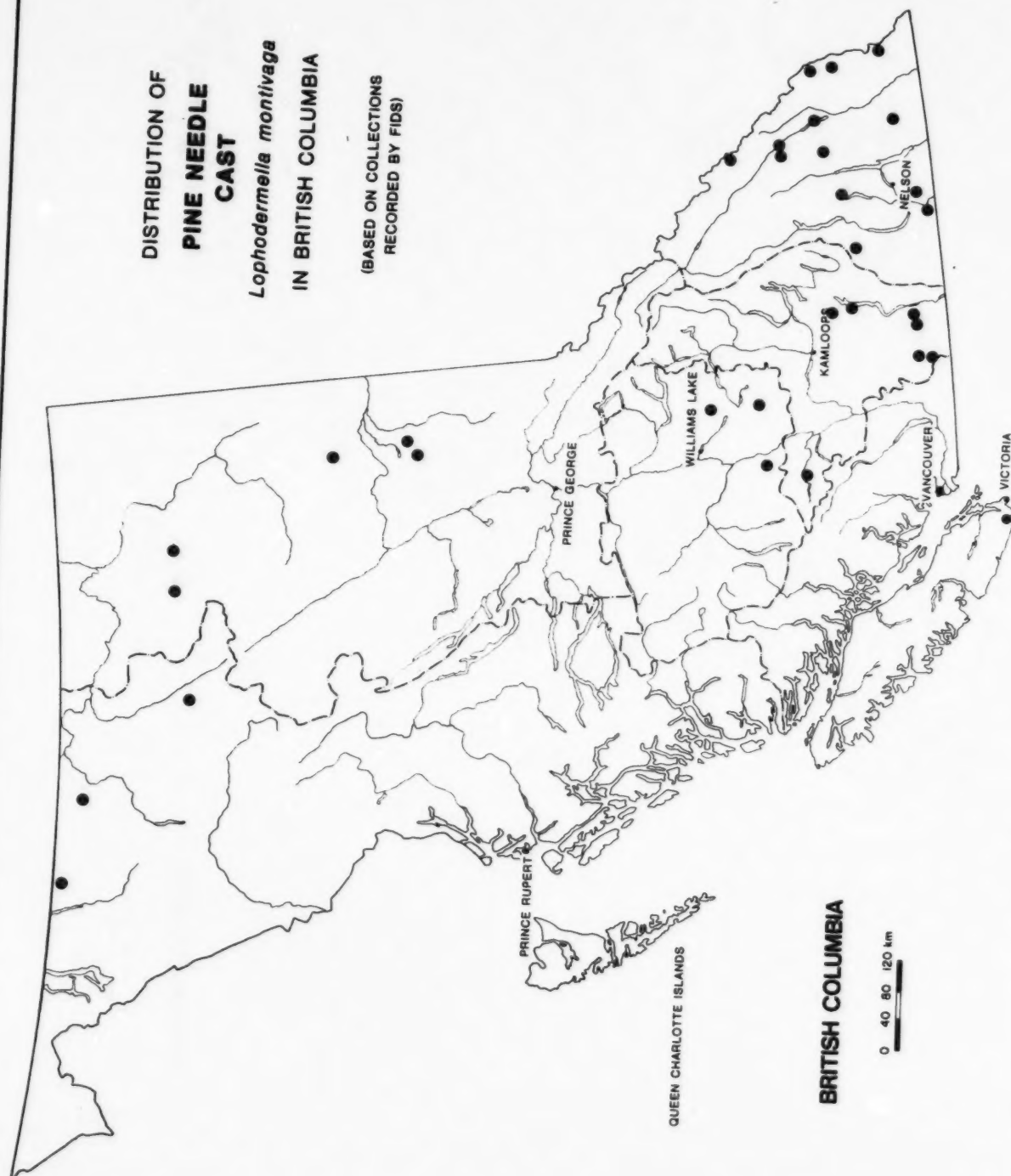


DISTRIBUTION OF
**PINE NEEDLE
CAST**
Lophodermella concolor
IN BRITISH COLUMBIA
(BASED ON COLLECTIONS
RECORDED BY FIDS)



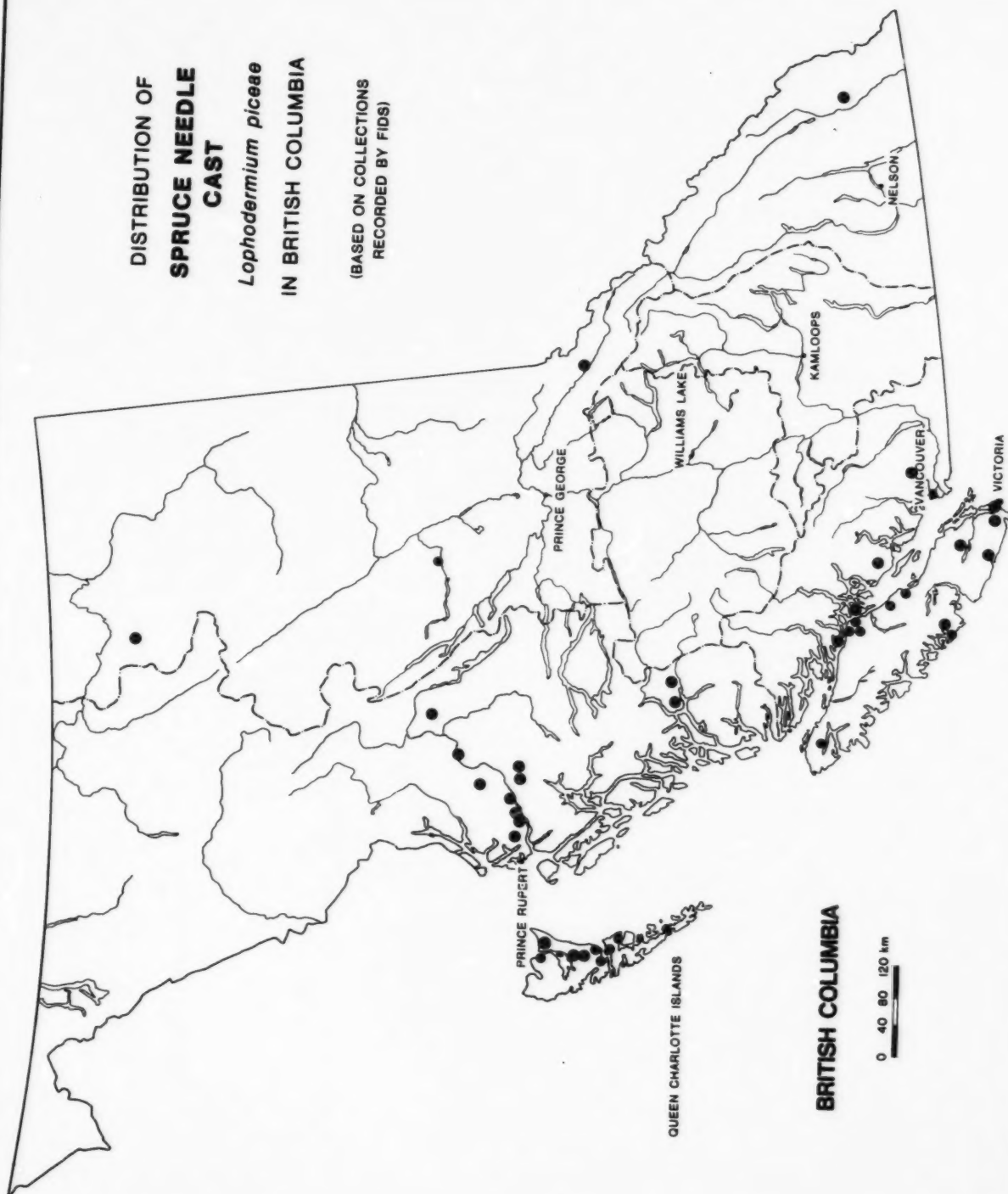
DISTRIBUTION OF
**PINE NEEDLE
 CAST**
Lophodermella montivaga
 IN BRITISH COLUMBIA

(BASED ON COLLECTIONS
 RECORDED BY FIDS)



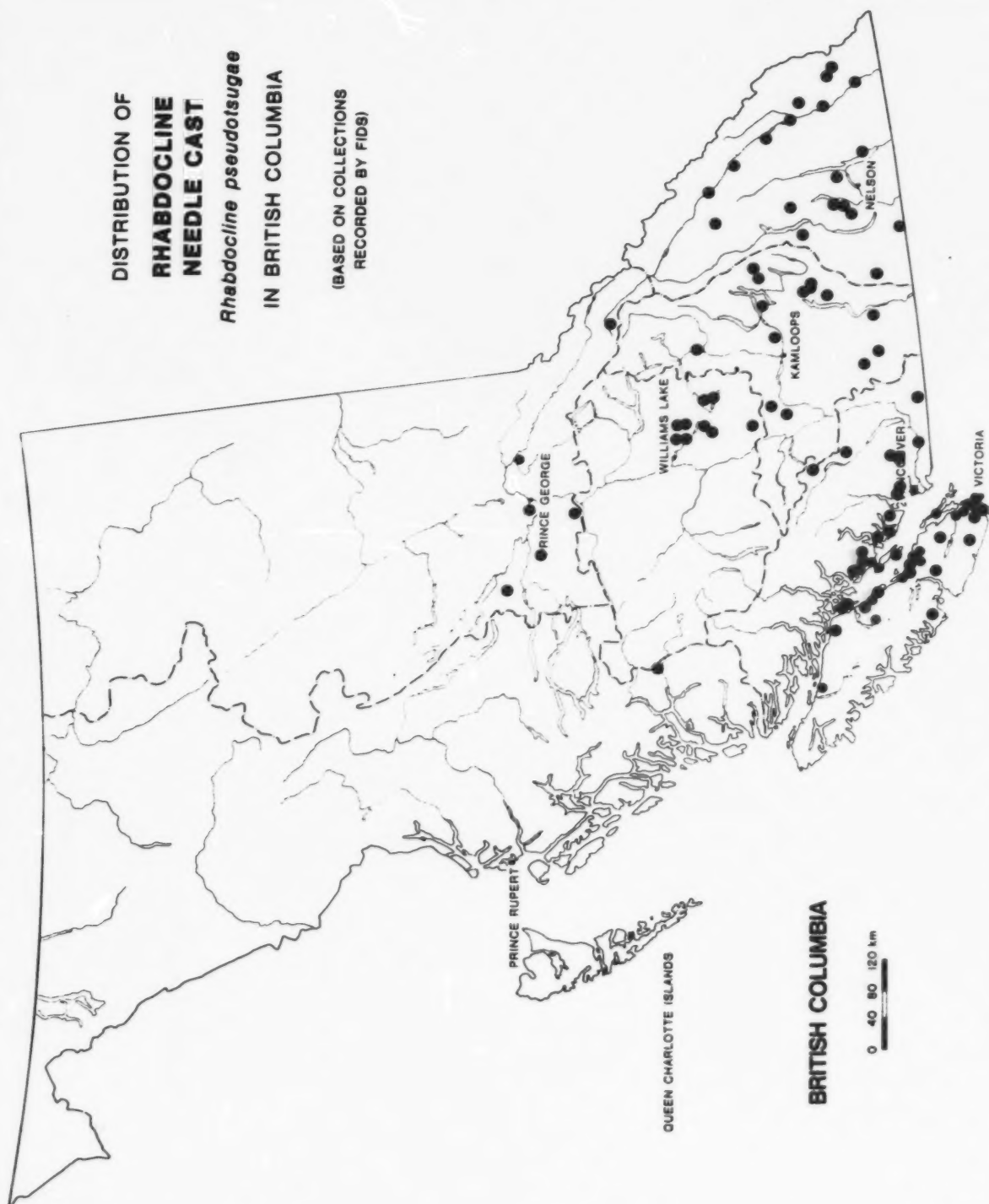
DISTRIBUTION OF
**SPRUCE NEEDLE
CAST**
Lophodermium piceae
IN BRITISH COLUMBIA

(BASED ON COLLECTIONS
RECORDED BY FIDS)



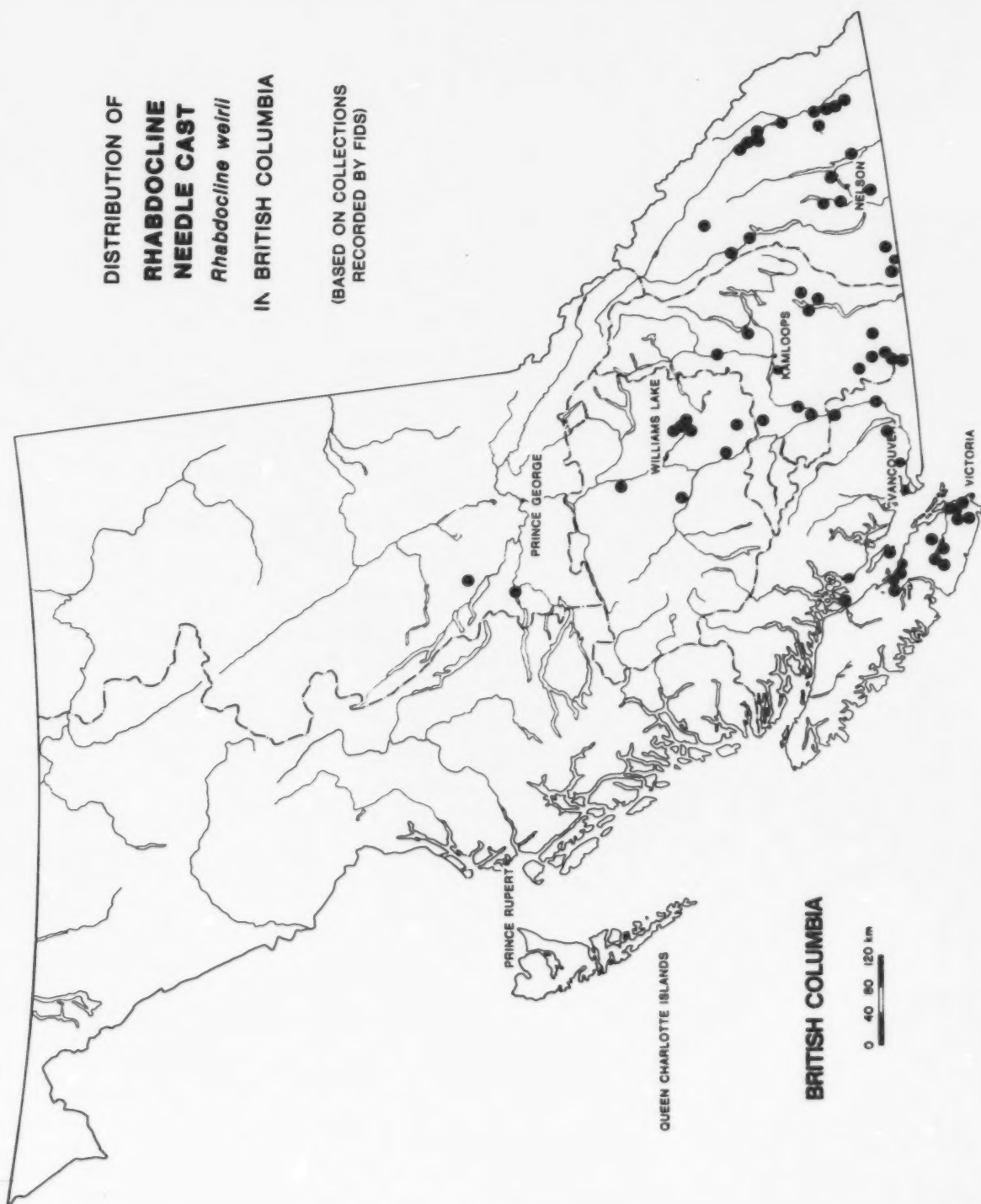
DISTRIBUTION OF
**RHABDOCLINE
NEEDLE CAST**
Rhabdocline pseudotsugae
IN BRITISH COLUMBIA

(BASED ON COLLECTIONS
RECORDED BY FIDS)



DISTRIBUTION OF
**RHABDOCLINE
 NEEDLE CAST**
Rhabdocline weirli
 IN BRITISH COLUMBIA

(BASED ON COLLECTIONS
 RECORDED BY FIDS)

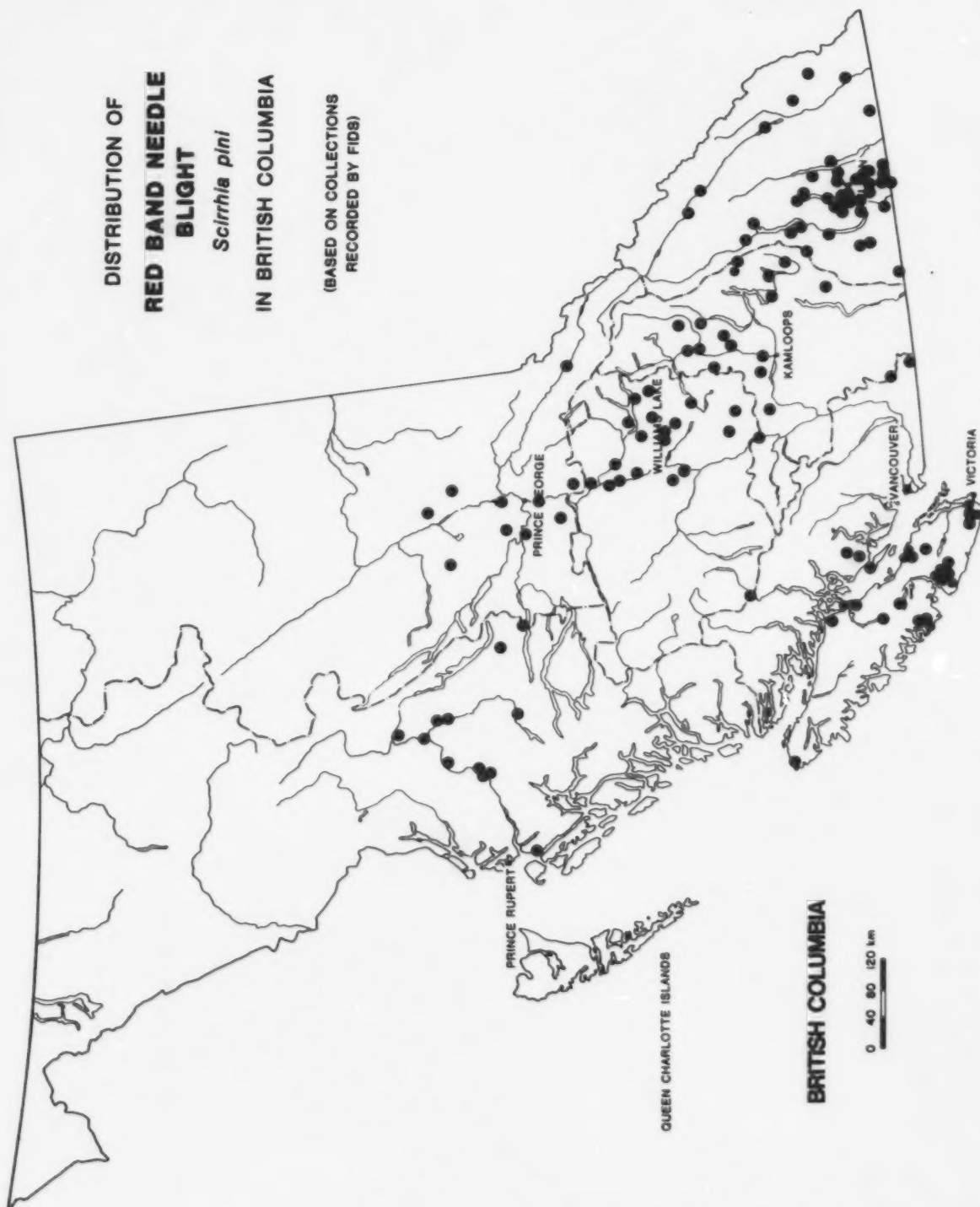


DISTRIBUTION OF
**RED BAND NEEDLE
BLIGHT**

Scirrhia pini

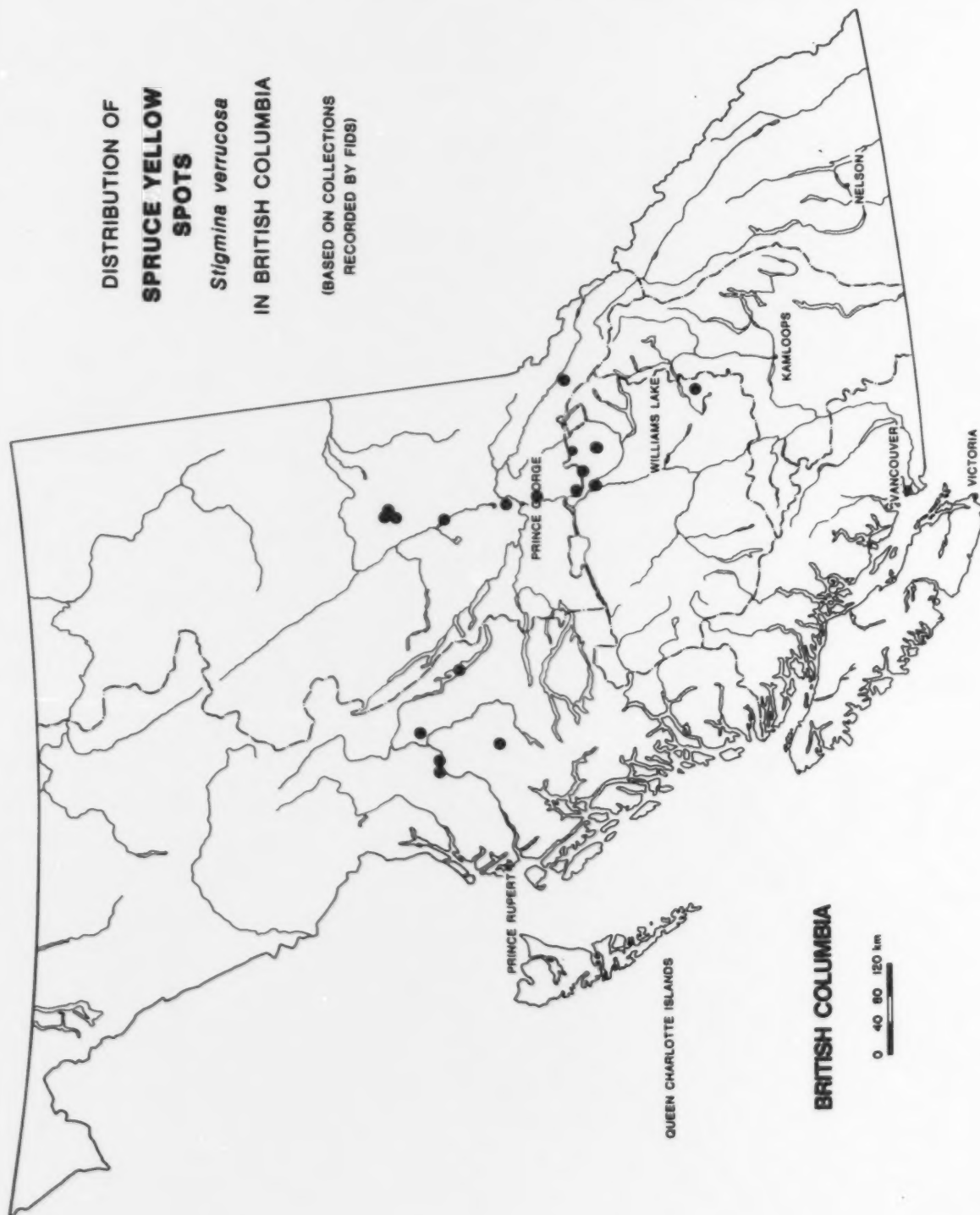
IN BRITISH COLUMBIA

(BASED ON COLLECTIONS
RECORDED BY FIDS)



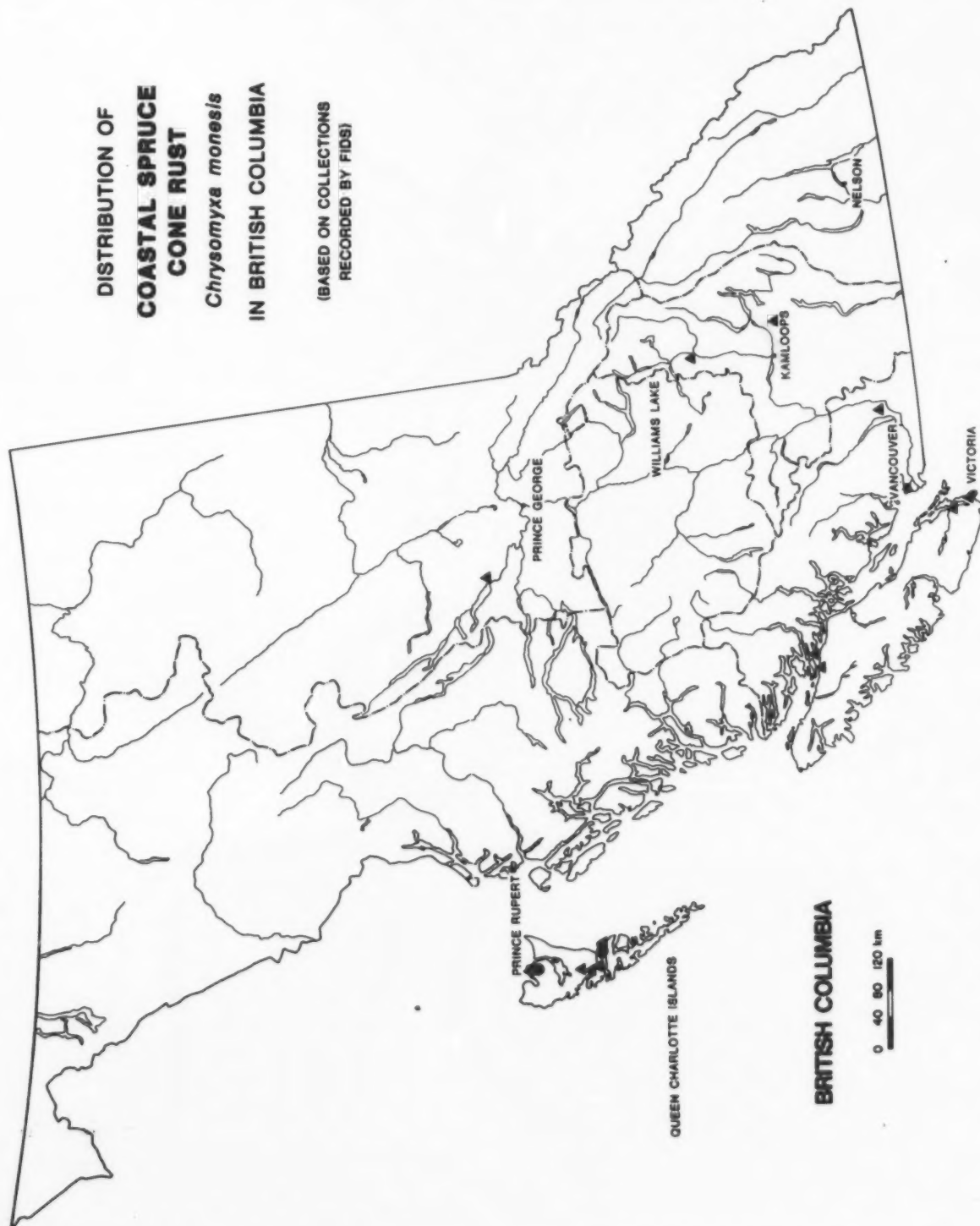
DISTRIBUTION OF
**SPRUCE YELLOW
SPOTS**
Stigmata verrucosa
IN BRITISH COLUMBIA

(BASED ON COLLECTIONS
RECORDED BY FIDS)



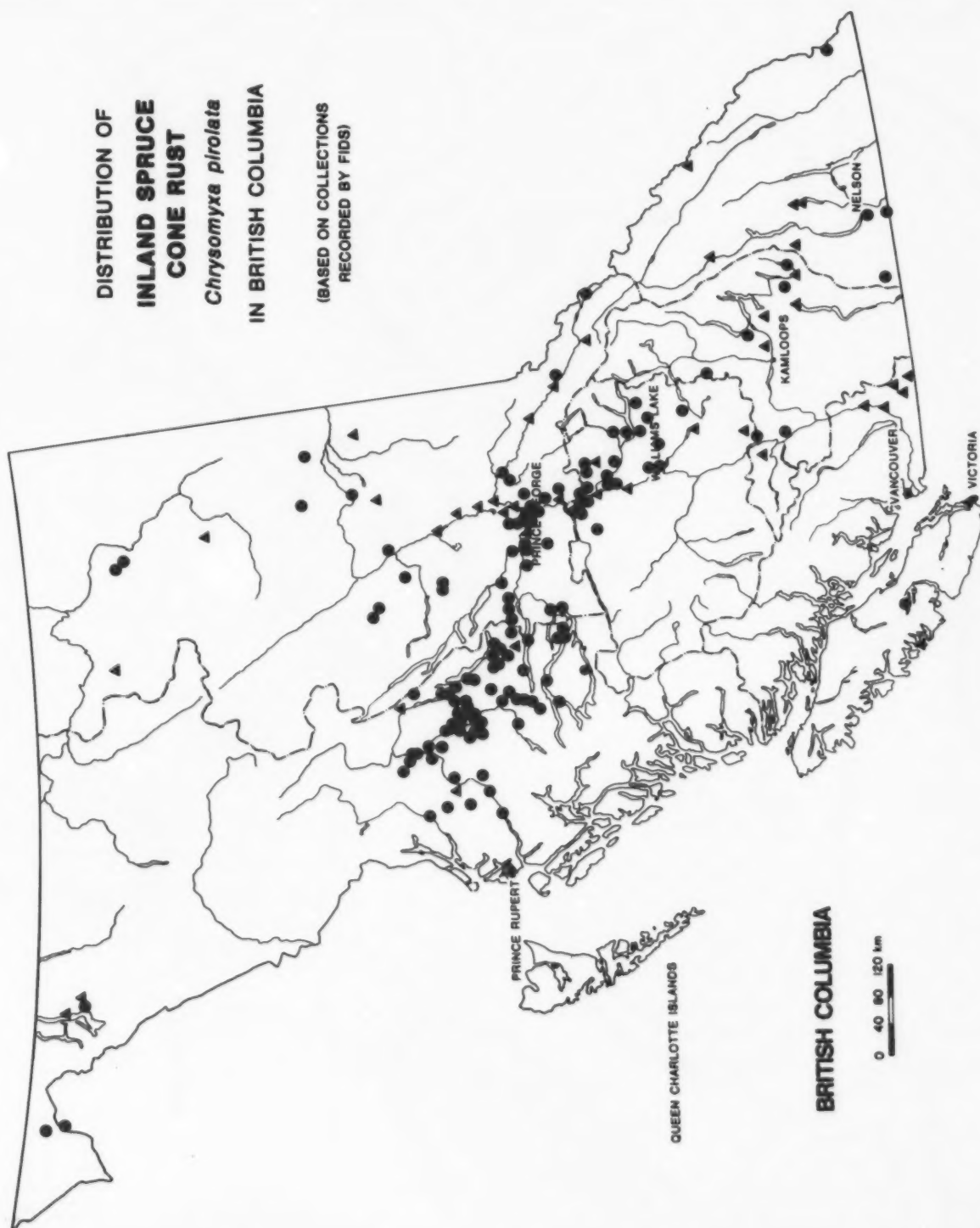
DISTRIBUTION OF
**COASTAL SPRUCE
CONE RUST**
Chrysomyxa monesis
IN BRITISH COLUMBIA

(BASED ON COLLECTIONS
RECORDED BY FIDS)



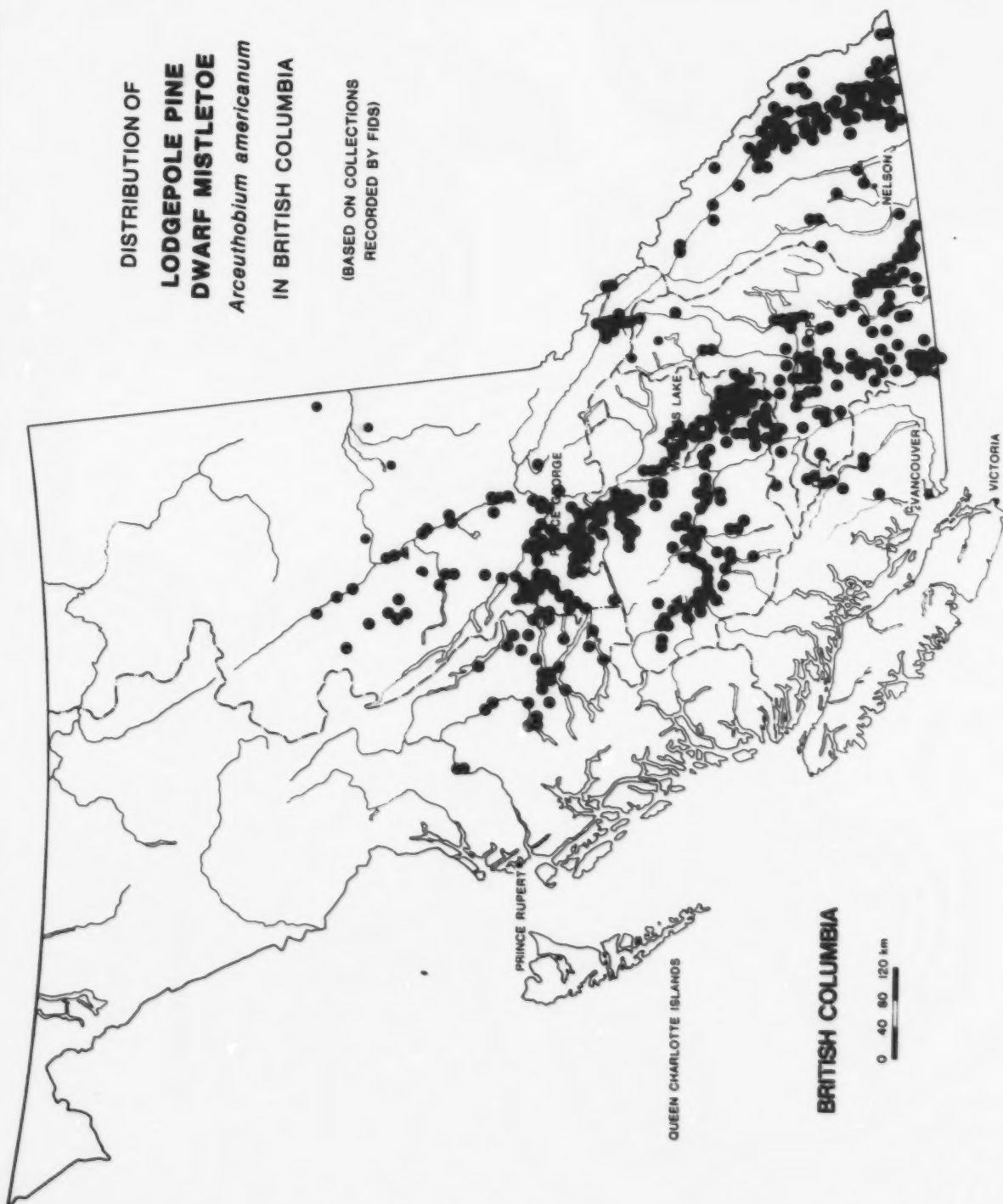
DISTRIBUTION OF
INLAND SPRUCE
CONE RUST
Chrysomyxa pirolata
IN BRITISH COLUMBIA

(BASED ON COLLECTIONS
RECORDED BY FIDS)



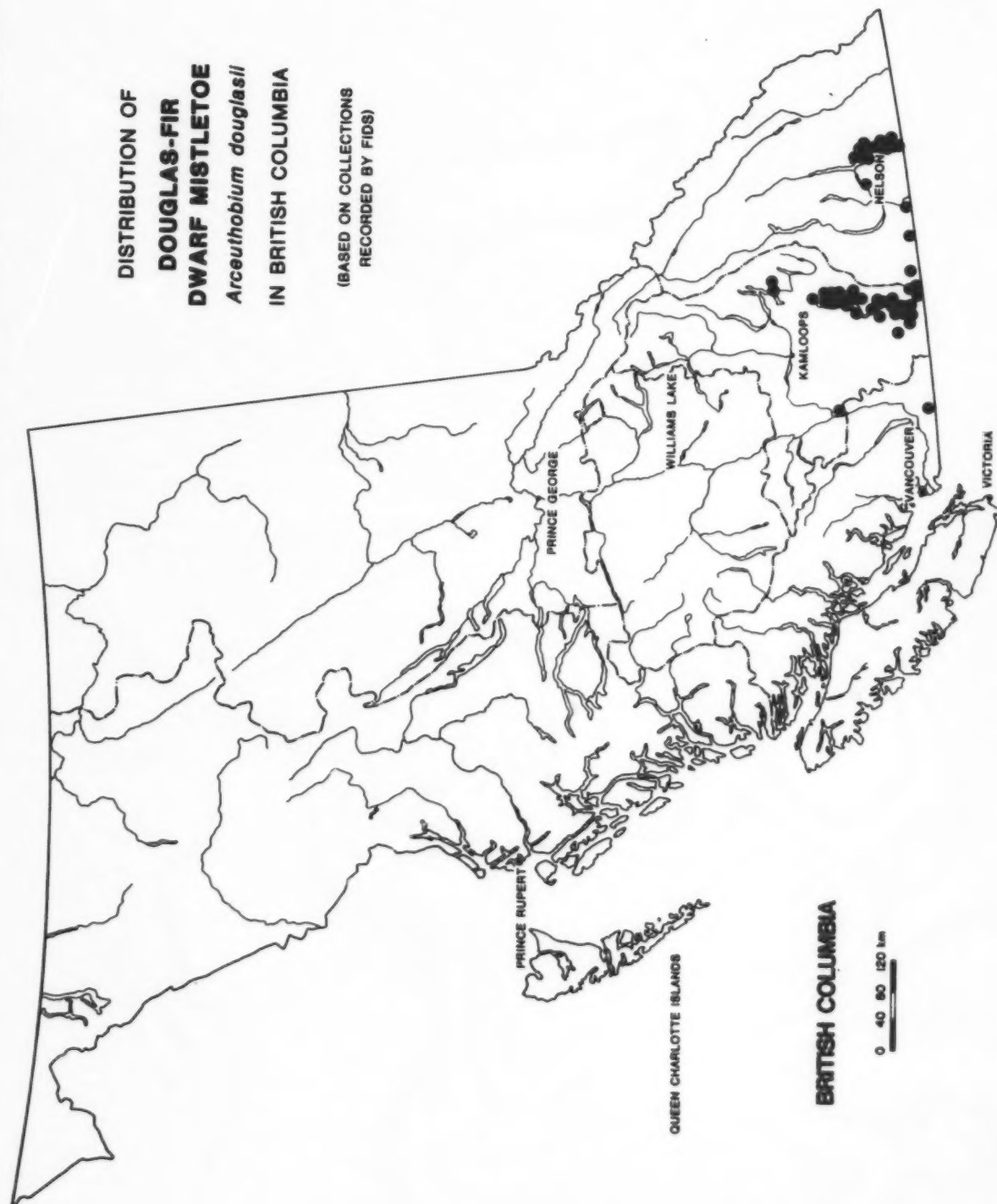
DISTRIBUTION OF
LODGEPOLE PINE
DWARF MISTLETOE
Arceuthobium americanum
IN BRITISH COLUMBIA

(BASED ON COLLECTIONS
RECORDED BY FIDS)



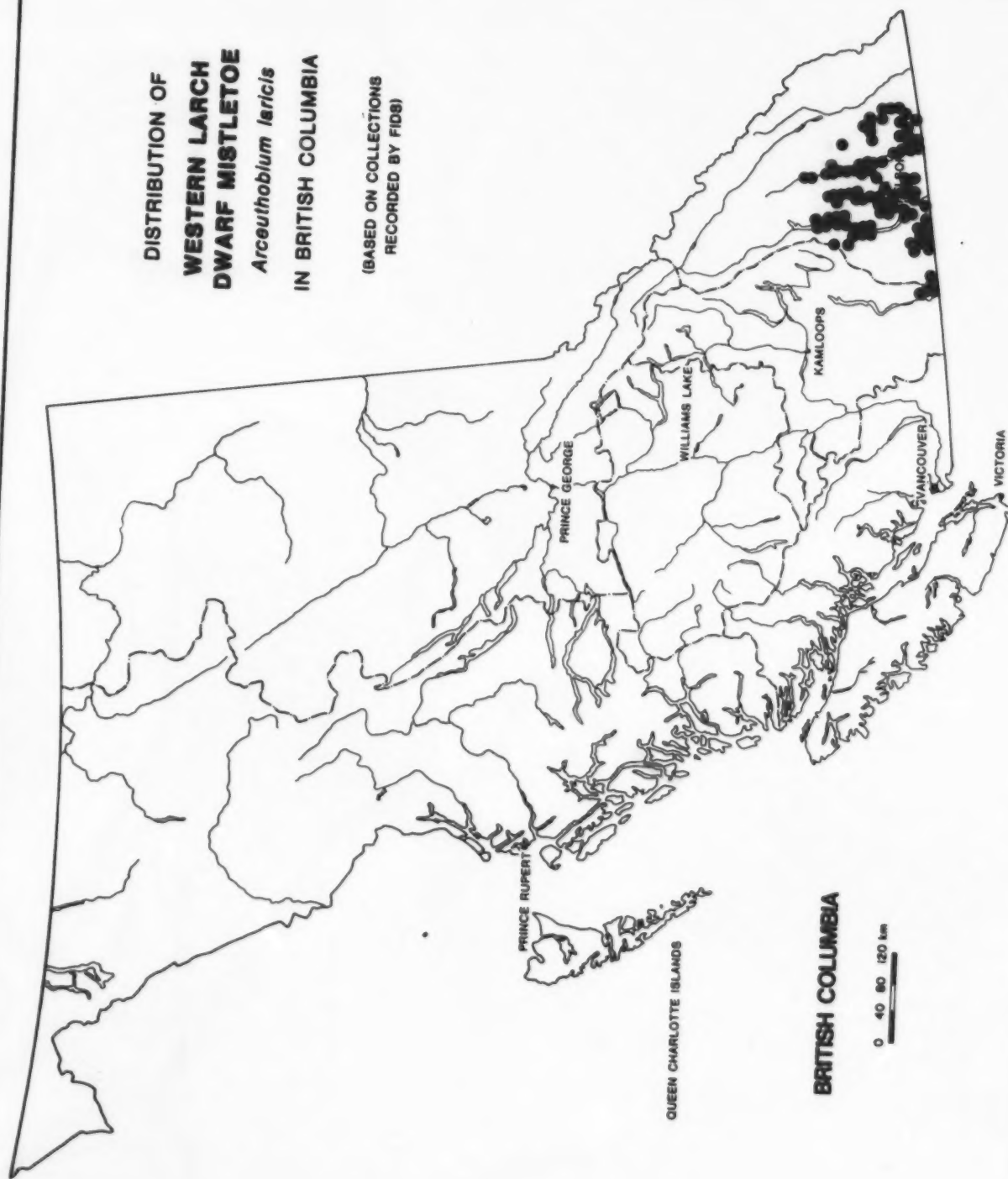
DISTRIBUTION OF
**DOUGLAS-FIR
DWARF MISTLETOE**
Arceuthobium douglasii
IN BRITISH COLUMBIA

(BASED ON COLLECTIONS
RECORDED BY FIDS)



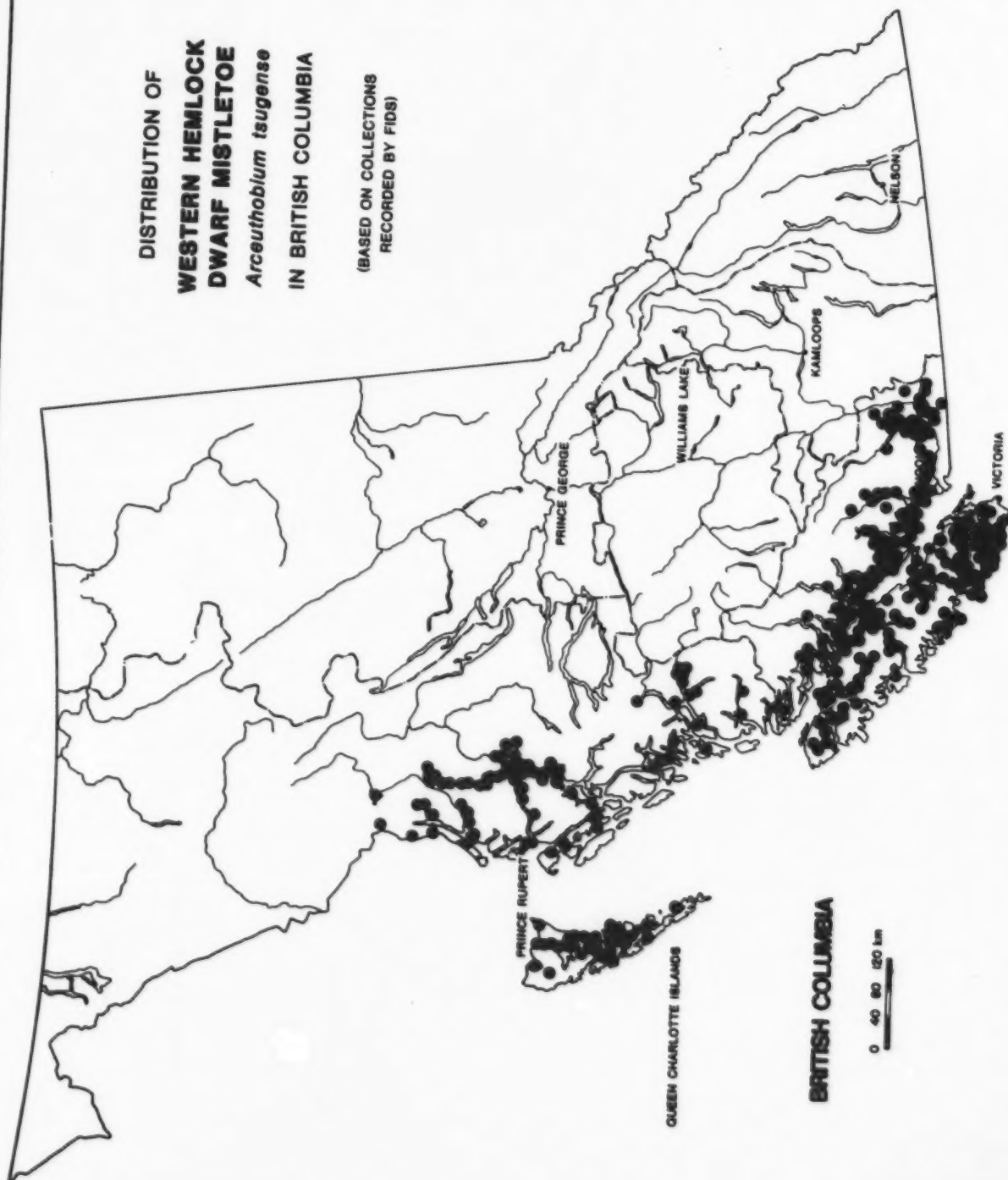
**DISTRIBUTION OF
WESTERN LARCH
DWARF MISTLETOE
Arceuthobium laricis
IN BRITISH COLUMBIA**

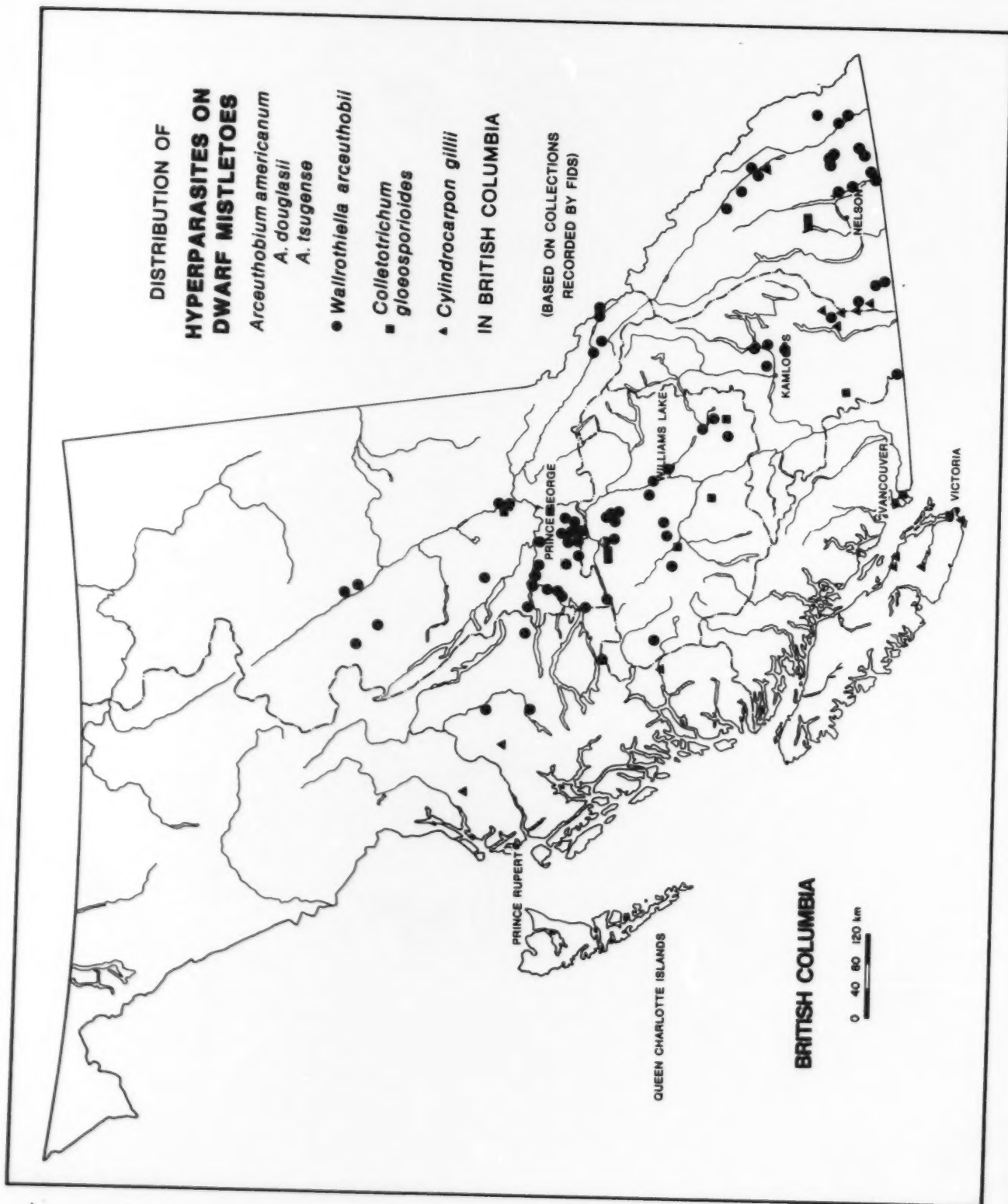
(BASED ON COLLECTIONS
RECORDED BY FIDS)



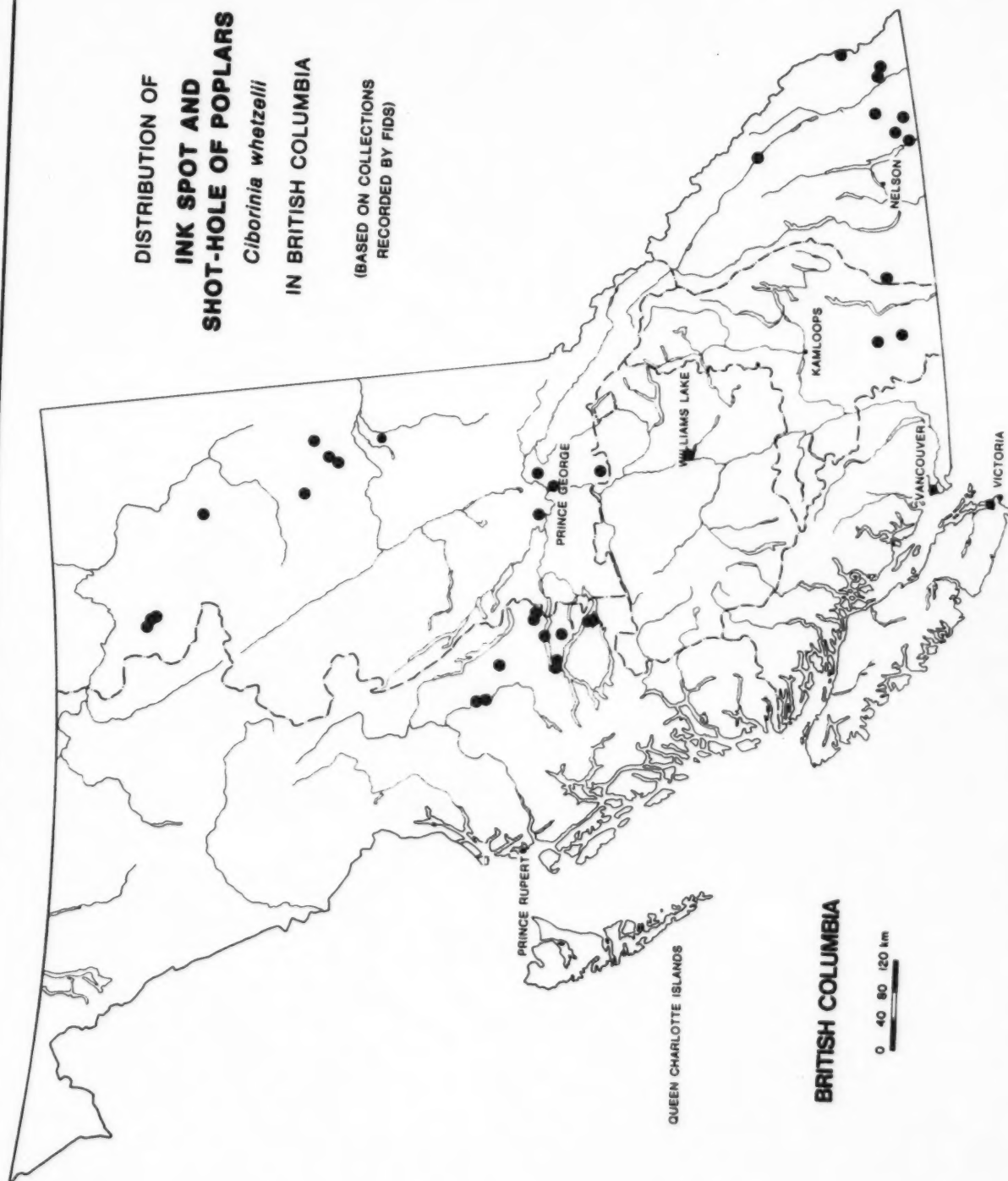
DISTRIBUTION OF
**WESTERN HEMLOCK
 DWARF MISTLETOE**
Arceuthobium tsugense
 IN BRITISH COLUMBIA

(BASED ON COLLECTIONS
 RECORDED BY FIDS)



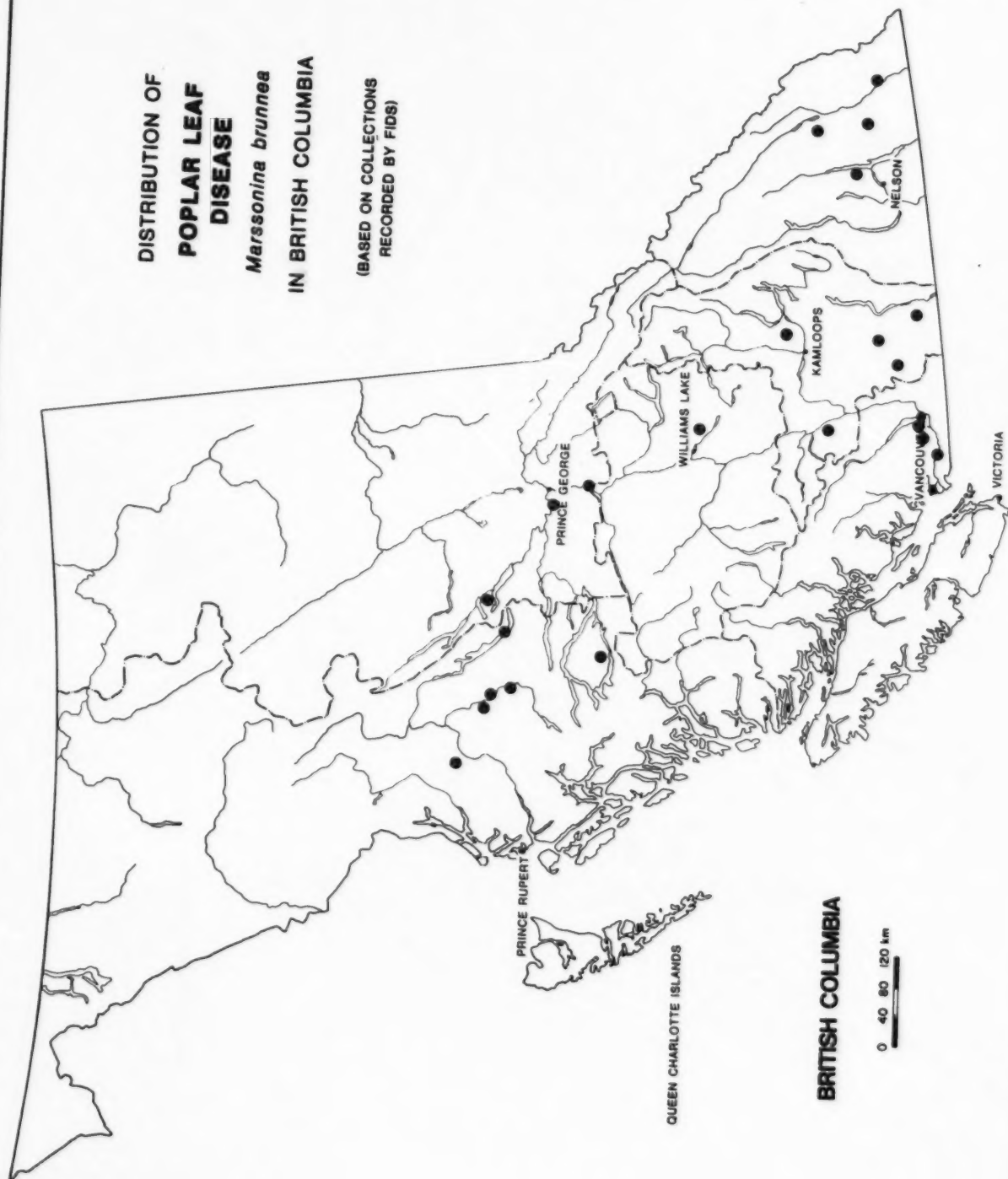


**DISTRIBUTION OF
INK SPOT AND
SHOT-HOLE OF POPLARS**
Ciborinia whetzelli
IN BRITISH COLUMBIA
(BASED ON COLLECTIONS
RECORDED BY FIDS)



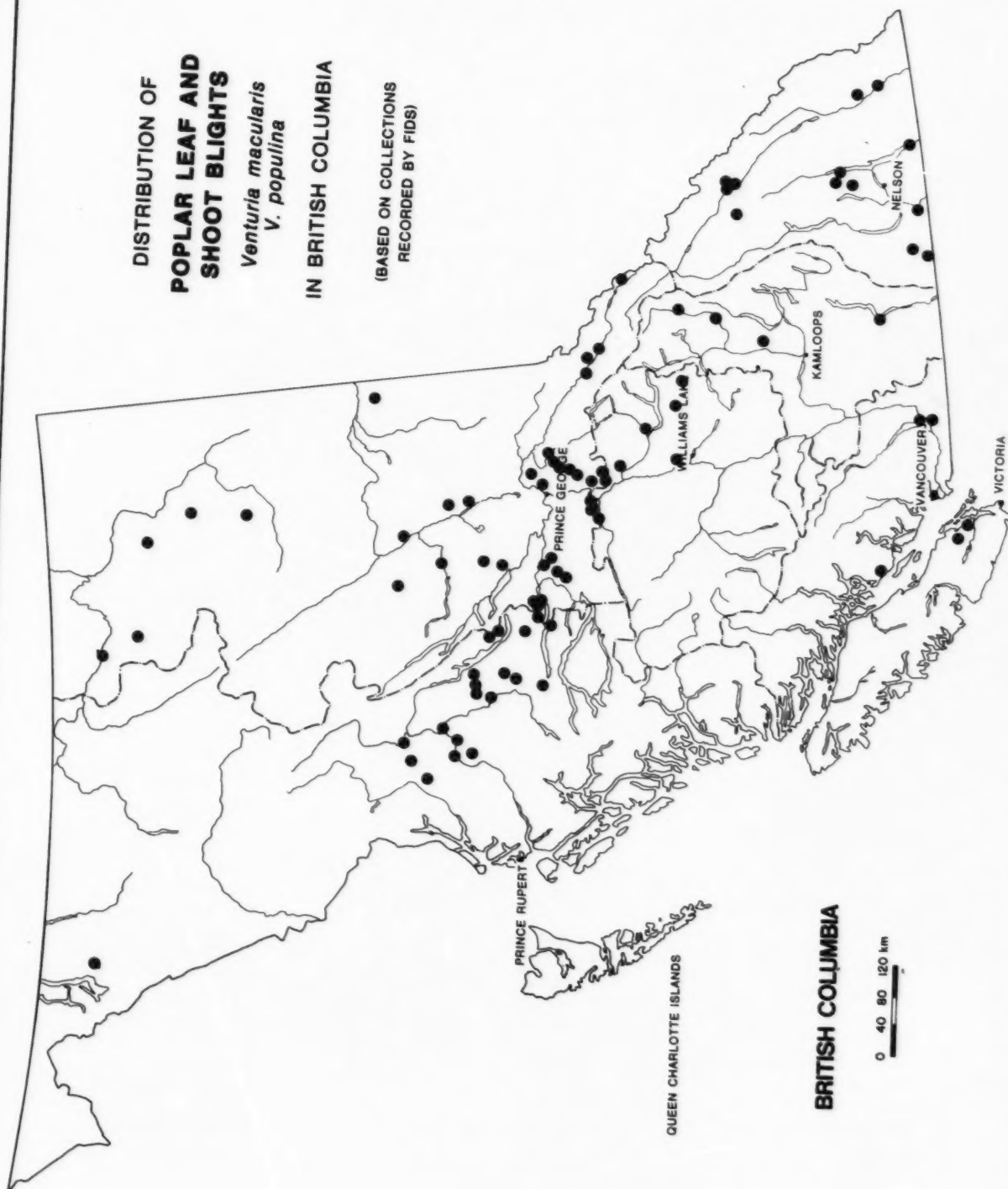
**DISTRIBUTION OF
POPLAR LEAF
DISEASE**
Marssonina brunnea
IN BRITISH COLUMBIA

(BASED ON COLLECTIONS
RECORDED BY FIDS)



**DISTRIBUTION OF
POPLAR LEAF AND
SHOOT BLIGHTS**
Venturia macularis
V. populina
IN BRITISH COLUMBIA

(BASED ON COLLECTIONS
RECORDED BY FIDS)



BRITISH COLUMBIA

Host list

Root and butt rots

Armillaria spp.

Abies amabilis
A. grandis
A. lasiocarpa
Chamaecyparis lawsoniana
Larix decidua
L. leptolepis
L. occidentalis
Picea abies
P. engelmannii
P. glauca
P. sitchensis
Pinus contorta
P. monticola
P. muricata
P. nigra
P. pinaster
P. ponderosa
P. radiata
P. resinosa
P. sylvestris
Pseudotsuga menziesii
Taxus brevifolia
Thuja plicata
Tsuga heterophylla
Alnus rubra
Betula papyrifera
Populus X canadensis
P. nigra
P. tremuloides
P. trichocarpa
Quercus garryana
Salix sp.

Fomes annosus

Abies amabilis
A. grandis
Picea glauca
P. sitchensis
Pseudotsuga menziesii
Thuja plicata
Tsuga heterophylla
Acer macrophyllum
Alnus rubra

Phellinus weirii

Abies amabilis
A. grandis
A. lasiocarpa
Chamaecyparis nootkatensis
Larix occidentalis
Picea sitchensis
Pinus contorta
P. monticola
P. ponderosa
Pseudotsuga menziesii
Thuja plicata
Tsuga heterophylla

Polyporus schweinitzii

Larix spp.
Picea spp.
Pinus spp.
Pseudotsuga menziesii
Thuja plicata
Tsuga heterophylla

P. tomentosus

Abies amabilis
Picea engelmannii
P. glauca
P. sitchensis
Pinus contorta
P. monticola
Tsuga heterophylla

Rhizina undulata

Larix occidentalis
Picea engelmannii
P. glauca
P. sitchensis
Pinus contorta
Pseudotsuga menziesii
Tsuga heterophylla

Heart rots

Echinodontium tinctorium

Abies spp.
Thuja plicata
Tsuga heterophylla
T. mertensiana

Fomes ignarius

Acer spp.
Alnus spp.
Arbutus menziesii
Betula spp.
Cornus nuttallii
Malus spp.
Populus spp.
Salix lasiandra

F. pini

Abies spp.
Larix occidentalis
Picea spp.
Pinus spp.
Pseudotsuga menziesii
Thuja plicata
Tsuga heterophylla
T. mertensiana

Haematostereum sanguinolentum

Abies amabilis
A. grandis
A. lasiocarpa
Larix occidentalis
Picea glauca
P. sitchensis
Pinus contorta
P. monticola
P. ponderosa
Pseudotsuga menziesii
Thuja plicata
Tsuga heterophylla
T. mertensiana

Pholiota destruens

Alnus sp.
Populus spp.

Polyporus sericeomollis

Abies lasiocarpa
Picea glauca
P. sitchensis
Pseudotsuga menziesii
Thuja plicata

Stem cankers**Atropellis piniphila**

Pinus contorta
P. ponderosa

Botryosphaeria tsugae

Tsuga heterophylla

Diaporthe lokoyae

Pseudotsuga menziesii
Tsuga heterophylla

Hypoxylon mammatum

Alnus sinuata
Populus tremuloides
Salix sp.

Potebniamyces balsamicola

Abies spp.

Sydowia polyspora

Abies spp.
Larix decidua
Picea engelmannii
Pinus spp.
Pseudotsuga menziesii
Tsuga heterophylla

Stem rusts**Cronartium coleosporioides**

Pinus contorta
Castilleja miniata
Melampyrum lineare
Rhinanthus crista-galli

C. comandrae

Pinus spp.
Comandra spp.

C. comptoniae

Pinus spp.
Myrica gale

C. ribicola

Pinus spp.
Ribes spp.

Endocronartium harknessii

Pinus spp.

Broom rusts**Chrysomyxa arctostaphyli**

Picea spp.
Arctostaphylos uva-ursi

Melampsorella caryophyllacearum

Abies spp.
Cerastium spp.
Stellaria spp.

Needle rusts**Chrysomyxa ledicola**

Picea spp.
Ledum groenlandicum

C. weirii

Picea spp.

C. woroninii

Picea spp.
Ledum groenlandicum

Coleosporium asterum

Pinus contorta
Aster spp.
Grindelia integrifolia
Solidago spp.

Melampsora medusae

Larix spp.
Pinus spp.
Pseudotsuga menziesii
Populus tremuloides

M. occidentalis

Pseudotsuga menziesii
Populus trichocarpa

Pucciniastrum epilobii

Abies spp.
Epilobium spp.

Needle blights and casts**Davisomycella montana**

Pinus contorta

Delphinella spp.

Abies lasiocarpa

Didymascella thujina

Thuja plicata

<i>Elytroderma deformans</i>	<i>Scirrhia pini</i>	<i>A. tsugense</i>
<i>Pinus contorta</i> <i>P. ponderosa</i>	<i>Pinus</i> spp.	<i>Abies amabilis</i> <i>Picea sitchensis</i> <i>Pinus contorta</i> <i>P. monticola</i> <i>Tsuga heterophylla</i>
<i>Hypodermella laricis</i>	<i>Stigmina verrucosa</i>	
<i>Larix occidentalis</i>	<i>Picea</i> spp.	
<i>Isthmiella crepidiformis</i>	Cone rusts	Foliage diseases of broadleaved trees
<i>Picea</i> spp.	<i>Chrysomya monesis</i>	<i>Ciborinia whetzelii</i>
<i>I. quadrispora</i>	<i>Picea sitchensis</i> <i>Moneses uniflora</i>	<i>Populus tremuloides</i>
<i>Abies lasiocarpa</i>	<i>C. pirolata</i>	<i>Marssonina brunnea</i>
<i>Lirula abietis-concoloris</i>	<i>Picea</i> spp. <i>Moneses uniflora</i> <i>Pyrola</i> spp.	<i>Populus alba</i> <i>P. tremuloides</i> Poplar hybrids
<i>Abies</i> spp.		
<i>L. macrospora</i>	Dwarf mistletoes	<i>Venturia macularis</i>
<i>Picea</i> spp.	<i>Arceuthobium americanum</i>	<i>Populus tremuloides</i>
<i>Lophodermella concolor</i>	<i>Picea</i> spp. <i>Pinus contorta</i> <i>P. ponderosa</i>	<i>Venturia populina</i>
<i>Pinus contorta</i> <i>P. sylvestris</i>		<i>Populus balsamifera</i> <i>P. trichocarpa</i>
<i>L. montivaga</i>	<i>A. douglasii</i>	
<i>Pinus contorta</i> <i>P. sylvestris</i>	<i>Abies grandis</i> <i>Pseudotsuga menziesii</i>	
<i>Lophodermium piceae</i>	<i>A. laricis</i>	
<i>Abies lasiocarpa</i> <i>Picea</i> spp.	<i>Abies grandis</i> <i>A. lasiocarpa</i> <i>Larix occidentalis</i> <i>Picea engelmannii</i> <i>Pinus contorta</i> <i>P. monticola</i> <i>P. ponderosa</i>	
<i>Rhabdocline pseudotsugae</i>		
<i>Pseudotsuga menziesii</i>		
<i>R. weirii</i>		
<i>Pseudotsuga menziesii</i>		